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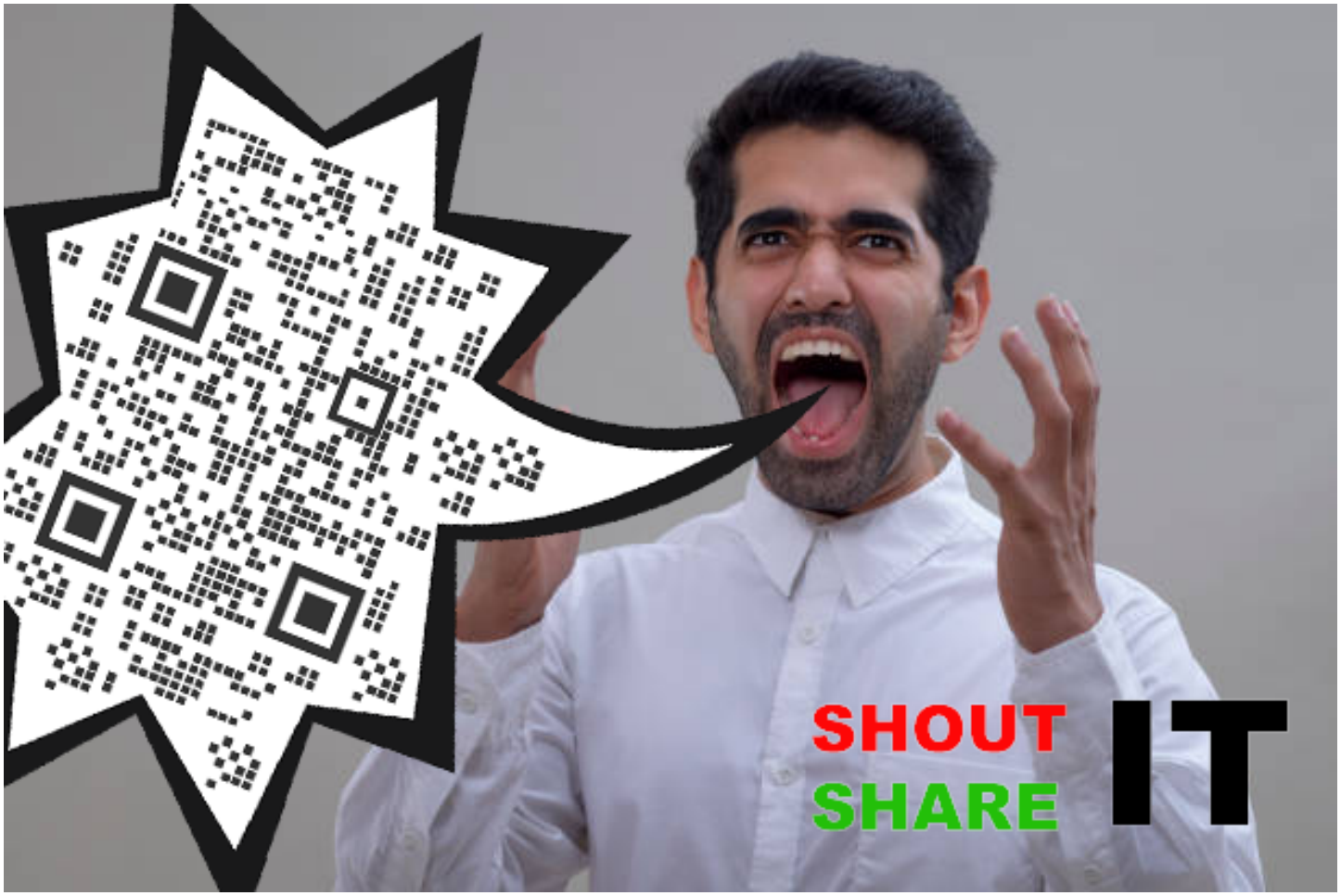
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U. S. DEPARTMENT OF AGRICULTURE.

BUREAU OF PLANT INDUSTRY—BULLETIN NO. 242.

B. T. GALLOWAY, *Chief of Bureau.*

SEEDS AND PLANTS IMPORTED

DURING THE PERIOD FROM APRIL 1 TO JUNE 30, 1911:

INVENTORY No. 27; Nos. 30462 to 31370.

Issued May 31, 1912.

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FOREIGN SEED AND PLANT INTRODUCTION.

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LETTER OF TRANSMITTAL.

U. S. Department of Agriculture,
Bureau of Plant Industry,
Office of the Chief,
Washington, D. C., January 20, 1912.

Sir: I have the honor to transmit herewith and to recommend for publication as Bulletin No. 242 of the series of this Bureau the accompanying manuscript, entitled "Seeds and Plants Imported during the Period from April 1 to June 30, 1911: Inventory No. 27; Nos. 30462 to 31370."

This manuscript has been submitted by the Agricultural Explorer in Charge of Foreign Seed and Plant Introduction with a view to publication.

Respectfully,

B. T. Galloway,
Chief of Bureau.

Hon. James Wilson,
Secretary of Agriculture.

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B. P. I.—723.

SEEDS AND PLANTS IMPORTED DURING THE PERIOD FROM APRIL 1 TO JUNE 30, 1911: INVENTORY NO. 27; NOS. 30462 TO 31370.

INTRODUCTORY STATEMENT.

It is not generally realized by the public that the area of inhabited country on the globe which is visited by zero temperatures is limited to the Northern Hemisphere and to the tops of mountains. A temperature such as is prevalent on our Great Plains every winter would practically wipe off the vegetation from the continents lying below the equator and would so injure the agriculture even of central Europe that it would require many years in which to recover. The eucalypts are trees which we can not grow north of Florida or California, and yet there are varieties which grow well on the west coast of Scotland.

The limited area which can be explored with any hope of obtaining perennial plants hardy enough to thrive on our Great Plains should give any exploration of such areas special importance.

The present inventory contains descriptions of plant material obtained by Mr. Frank N. Meyer during an exploration trip across the great Tien Shan mountain range, which lies between Chinese and Russian territory, a region with passes 13,000 feet above the sea and possessing a climate approaching that of the upper Mississippi Valley. The winters are long and cold, and the thermometer goes down to −20° F. or more, while the summers are extremely hot, though possibly not so long as those in our Middle West.

Mr. Meyer left Kashgar in Chinese Turkestan on February 10, and on foot or by native cart he traveled across the alkali and sandy deserts for 13 days to Aksu, at the foot of the Tien Shan Range, picking up some desert poplars on the way. Here he changed his desert caravan for a mountain-climbing equipment and with a mounted guard climbed northward over the range by way of Awat, Yengi-Malah, Kailik, and Tanga-Tash over the Muzart Glacier to Ghilan, thence eastward along the Tekes River to a point on the Chong Djighilan River east of the hamlet of Chong Djighilan, and from there worked his way northwestward in the valley of the Ili to Kulja, spending 40 days on the road. The difficulties of travel in any poorly

mapped region are great, but they were made even greater by the fact that the region mentioned is the very boundary line between the Russian and the Chinese Empires and that at that time the Kulja, or Ili, district was a subject of international dispute between the two countries.

In the journey through the alkali desert Mr. Meyer secured some promising desert poplars and cuttings of that important drought and alkali resistant tree, the tamarisk (Nos. 30930 to 30933), to which enough attention has not yet been paid by dwellers in desert regions who are looking for cover plants and sand binders. Crossing the Tien Shan Range he reached altitudes of 13,000 feet and traveled through forests of the rare spruce *Picea obovata schrenkiana,* a form which may have a distinct future as a park and avenue tree in the elevated semiarid regions of this country where the Norway spruce fails. On March 16 and 17 Mr. Meyer discovered wild apricot and wild apple trees (Nos. 30946 to 30949 and 30952) standing in 2 feet of hard-frozen snow on the north side of an otherwise barren mountain near Tugai. In the valley of the Chong Djighilan River groves of these wild fruits occur, the slow-growing trees varying in all possible ways. They grow in the company of birches, sea buckthorn, hawthorn, and other northern species, and Mr. Meyer is forced to the conclusion from his study of the wild orchards which he saw there that these wild species will give rise to strains of very much hardier varieties of both these orchard fruits than any we now possess. Our apples and apricots have no doubt come to us from their wild homes through the mild regions of Europe, and this reaching back to the original wild hardy forms can not fail to be of importance to the breeders who are interested in the production of hardier varieties. Owing to the fact that it took two months for the cuttings to reach Washington (though gathered in March they did not reach here until May 17), it proved impossible to save them. Arrangements for their reintroduction are under way.

Some of the other plants which were secured on this trip are an ornamental Euonymus (No. 31276) from the Ili Valley, which is likely to be hardier than *E. radicans,* so much used on the walls of our houses; a valuable collection of the named varieties of winter melons of the Casaba type (Nos. 31335 to 31352) from the sand dunes of Tcharjui; two yellow-flowered alfalfas from an altitude of 4,000 to 7,000 feet (Nos. 30954 and 30955); two wild currants from Idin-Kul (Nos. 30943 and 30944); a collection of hardy willows for park planting in the Northwest (Nos. 30923 to 30929); and a collection of five varieties of apricots, one of them a dark-red sort, from Bis-Karim (Nos. 30628 to 30632).

Mr. C. V. Piper, of the Office of Forage-Crop Investigations, temporarily detailed to the Bureau of Insular Affairs of the War Depart-

ment for the purpose of making a study of the forage-crop problems of the Philippine Islands, left that detail on July 5 and started on an agricultural exploration for this office. His collections which are recorded here are only such as were made by him previous to leaving the Philippines. They include, among other forage grasses and grains, soft-seeded varieties of the grass known as Job's-tears (*Coix lachryma-jobi ma-yuen*), which Mr. Piper believes are promising as summer grain crops (No. 30715).

Of the plant material sent in by correspondents and through the American consuls the following are worthy of special attention: A strong, fruitful variety of the chayote (No. 30462), other varieties of which vine have been disappointing in our experiments because of their shy-bearing habits; roots of the white ginger from China (Nos. 30483 and 30592) that may demonstrate the possibility of ginger culture in this country; a wild species of Persea (No. 30494) from Panama which the avocado growers of Florida and California may be glad to try as a stock; the arayan from Mazatlan, Mexico (No. 30499), a rich, juicy, tropical fruit that deserves to be improved, as it represents one of a large number of tropical myrtles which have good edible fruits; plants of the Laranja da Terra (No. 30605), a variety or local strain of orange, which is used as a stock for the navel orange in Bahia, Brazil, where this orange is supposed to have originated; a collection of the remarkable soy beans of Manchuria (Nos. 30593 to 30601), the value of which for producing a paint oil and for use in the manufacture of human food has been recently so strongly emphasized; the sweet lime of Palestine (No. 30620) which, according to Mr. Aaron Aaronsohn, is preferred as a stock for the famous seedless Jaffa orange, because the trees require less irrigation and fruit earlier than the bitter orange; the Shibu kaki of Japan (No. 30678), a variety of persimmon which is not edible, but from which the remarkable waterproofing called "Kaki-no-shibu," a fermented product, is made; a new pine (No. 30688), which grows to a height of 200 feet and has cones 12 inches long, discovered by Mr. George Forrest in the Lichiang mountain range of western Yunnan; a lemon variety (No. 30737) from an altitude of 4,000 feet in the Himalayas, which is not injured by the snowfalls and rather severe frosts of that region; a shrubby fruit plant of the annona family (No. 30835) from British West Africa that is burned to the ground each year and may adapt itself to the annual freezes of Texas and northern Florida; *Sorbus torminalis* (No. 30892) from southern Russia, which is suggested by Mr. Theo. Kryshtofovich as a stock for the pear on account of its remarkable drought resistance; seeds from good fiber-bearing varieties of the New Zealand flax (Nos. 30831 and 30832) from Auckland; two species of passifloras from the Caucasus (Nos. 30902

and 30903) and one from Uruguay (No. 31207) for the use of any breeder who will undertake the hybridization of the maypop; the remarkable akala berry from Hawaii (*Rubus macraei*, No. 30907), with fruits 2 inches in diameter, of a deep-red color, and with an agreeable, slightly bitter taste, also imported for breeding purposes; bud sticks of seven of the standard commercial varieties of the Spanish carob (Nos. 30914 to 30920), a fodder tree of decided importance for the cheap lands of California; a remarkable collection of 29 varieties of Medicago (Nos. 30992 to 31024) and 14 of clover (Nos. 31043 to 31057) from St. Petersburg; 77 varieties of rice from the Philippines (Nos. 31116 to 31192); a tropical leguminous plant, Sphenostylis (No. 31194), which forms edible tubers with a taste similar to that of the potato; the Palma de Chile (*Jubaea chilensis*, No. 31097), a drought-resistant palm which is rapidly being exterminated by the manufacturers of Miel de Palma, a much-sought-for sirup which is made from its sap; and two unusual forms of the potato (Nos. 31230 and 31231) from 10,000 feet altitude in the interior of Peru, where they are cultivated by the Hill Indians of the Perene.

As heretofore, the inventory has been compiled by Miss Mary A. Austin and the botanical identifications and the notes on geographic distribution have been prepared by Mr. H. C. Skeels under the general direction of Mr. Frederick V. Coville, of the Office of Taxonomic and Range Investigations. With regard to these geographic notes it should be pointed out that they give only the distribution of the species as recorded in the available literature and no pretense is made to an exhaustive investigation of the distribution of any of the species.

David Fairchild,
Agricultural Explorer in Charge.

Office of Foreign Seed and Plant Introduction,
Washington, D. C., December 20, 1911.

INVENTORY.

30462. CHAYOTA EDULIS Jacq. **Chayote.**

From Algiers, Algeria. Presented by Dr. L. Trabut. Received April 1, 1911.

"*Chayotte verte grosse* (large green chayote). This variety is very strong and very fruitful." (*Trabut.*)

These are specimens of the strain annually exported from Algiers in very large quantities to the larger cities of Europe.

30463. PRUNUS ARMENIACA L. **Apricot.**

From Tai Ming Fu, North China. Presented by Mr. Horace W. Houlding. Received at the Plant Introduction Garden, Chico, Cal., March 27, 1911. Numbered April 1, 1911.

"This apricot is called the *Mammoth*." (*Houlding.*)

30464 to 30466. SACCHARUM OFFICINARUM L. **Sugar cane.**

From Tainan, Formosa, Japan. Presented by Mr. Takiya Kawakami, Bureau of Productive Industry, Government of Formosa, Taihoku, Formosa, Japan. Received April 1, 1911.

Plants of the following:

30464. *Chiku-cha.*

30465. *An-cha.*

30466. *Ra-cha.*

See No. 28193 for purpose for which introduced.

30467 and 30468. VITIS VINIFERA L. **Grape.**

From Tiflis, Trans-Caucasia, Russia. Presented by Mr. A. Rolloff, director, Tiflis Botanical Garden. Received April 1, 1911.

Cuttings of the following:

30467. *Tavris.*

30468. *Ksil-isjum.*

"The fruits of these table varieties bear transportation very well." (*Rolloff.*)

30469 to 30472. CUCUMIS MELO L. **Muskmelon.**

From Diarbekr, Kurdistan, Asiatic Turkey. Presented by Mr. W. W. Masterson, American consul, Kharput, Asiatic Turkey. Received April 1, 1911.

Seeds of the following winter varieties; notes by Mr. Masterson:

30469. "Elongated; coarse network; greenish white interior."

30470. "Large size; ball shaped; fine network; greenish white interior."

30471. "Ball shaped, but sectioned; yellow exterior; white interior."

30472. "Ball shaped; fine network; greenish white interior; medium size."

30473. PHOENIX DACTYLIFERA L. **Date.**

From Fez, Morocco. Presented by Mr. J. Thomson, Hotel Reina Cristina, Algeciras, Spain. Received April 4, 1911.

Tafilelt. See No. 18630 for description.

Seeds.

30474. NICOTIANA TABACUM L. **Tobacco.**

From Orizaba, Vera Cruz, Mexico. Presented by Mr. George Young, secretary, The Cananea Consolidated Copper Co., Cananea, Sonora, Mexico, who procured it from Gustavo Mayer y Cia., of Orizaba. Received April 3, 1911.

San Cristobal. "This seed is from one of the best plantations of the Valle Nacional and produces about the highest grade of Mexican tobacco. It was gathered from plants specially cultivated for seed. The nursery was made in the latter part of August and the plants were transplanted on the 1st of October. They suffered from no disease or insects. The original seed came from Havana about 20 years ago, but this is the first time that seed has been gathered from special plants." (*Gustavo Mayer y Cia.*)

30475 to 30477.

From Piracicaba, Brazil. Presented by Prof. Clinton D. Smith, Escola Agricola Pratica Luiz de Queiro. Received April 5, 1911.

Seeds of the following; quoted notes by Prof. Smith:

30475. CAESALPINIA PECTINATA Cav. **"Tara-tara."**

Distribution.—In the vicinity of Popayan, Colombia, and in Peru and Brazil.

30476 and 30477. PSIDIUM GUAJAVA L. **Guava.**

30476. "From selected fruits of white-fleshed guavas."

30477. "Seed from red-fleshed guavas."

30480. SPONDIAS LUTEA L. **Hog plum.**

From Rio de Janeiro, Brazil. Presented by Mr. Antonio Augusto Pereira da Fonseca. Received April 5, 1911.

"*Caja mirim.* Fruit edible." (*Fonseca.*)

Distribution.—From the provinces of Yucatan and Tabasco in southern Mexico southeastward through Central America to Colombia and northern South America and in the West Indies.

30481. TRIFOLIUM SUAVEOLENS Willd. **Shaftal.**

From Tiflis, Caucasus, Russia. Presented by Dr. Richard Schmidt, assistant director, Caucasus Museum and Public Library. Received March 30, 1911.

"This plant grows on comparatively xerophilous places, which receive water almost only in the spring from rainfalls and floods. It is very fragrant, so that one can notice the blooming clover meadows a kilometer away by the sweet odor. The soil on which it grows is a light, warm, penetrable, yellow loam, a sort of loess. It contains lime, clay, and silicic acid." (*Schmidt.*)

30482. AMYGDALUS sp. **Chinese flat peach.**

From about 50 miles southwest of Tsinan, Shantung, China. Presented by Mr. T. B. Neal, Union Medical College, Tsinan. Received April 8, 1911.

Feicheng. "This is a large, luscious cling, very much esteemed by the Chinese. I had to depend upon the word of the man I sent down into the country to buy these cuttings to guarantee their genuineness, so I send them with all reserve." (*Neal.*)

See Nos. 21989 and 29991 for previous introductions.

30483. ZINZIBER OFFICINALE Rosc. **White ginger.**

From Weihsien, China. Presented by Mr. A. H. Mateer. Received April 8, 1911.

"This is planted in ground that has been spaded to the depth of nearly a foot, but which is firm and solid underneath. This is to keep it from sending out rootlets deep

30483—Continued.

down and lead the strength of the plant to producing tubers, like the effect on a pot-bound plant of making it do something besides make rootlets. The ground should not be too dry, and this kind of soil will be all right without watering, except at first. In our region (latitude of Kentucky) it is planted in trenches dug as described, in April, in black and sandy soil (that is what the man said, though it seems to me like a contradiction), and the ground is not enriched. It is dug in the autumn. The price now (March 4) is about 5 cents a pound, but two months ago it was less than 3 cents, and in a month or two it will be twice as much." (*Mateer.*)

30486. ANNONA sp. **Annona.**

From Para, Brazil. Presented by Mr. Walter Fischer, acting director, Campo de Cultura Experimental Paraense. Received April 7, 1911.

"About three years ago Dr. J. Huber brought the original seed of this from the River Purus; a year ago I planted several of the young trees on the station grounds and the seeds are from fruits from these trees.

"The fruit is almost spherical and only slightly heart shaped; it is smooth and of a greenish orange color; weight about 6 ounces; meat of a beautiful orange and in fair quantity; taste, like that of all the annonas, difficult to describe, but with a suggestion of rosin, and not unlike some apples I have eaten; probably capable of improvement, and fruits may become larger on older trees. The tree in general aspect as well as in its bark and foliage strongly resembles the persimmon." (*Fischer.*)

30487. PASSIFLORA LIGULARIS Juss. **Passion fruit.**

From Orizaba, Vera Cruz, Mexico. Presented by Mr. William W. Canada, American consul, Vera Cruz. Received April 10, 1911.

30488. ZIZIPHUS JUJUBA Miller. **Jujube.**

From Chingchowfu, via Kiaochow, China. Presented by Mr. W. M. Hayes, Gotch-Robinson Union Theological College. Received April 10, 1911.

"Cuttings of the largest variety of Chinese dates that I could hear of. The Chinese claim that they are not easy to graft successfully, so they will have to be given the best possible chance." (*Hayes.*)

30491. SPONDIAS PINNATA (L.) Kurz.

From Sibpur, Calcutta, India. Presented by Maj. A. T. Gage, superintendent, Royal Botanic Garden. Received April 11, 1911.

Distribution.—A small tree occurring both wild and cultivated throughout India from the Indus eastward and southward to Malakka and Ceylon, rising to an elevation of 5,000 feet in the Himalayas; cultivated throughout tropical Asia.

30492 to 30494.

From Panama. Collected by Mr. H. Pittier, Bureau of Plant Industry. Received April 13, 1911.

30492. RHEEDIA EDULIS (Seem.) Planch. and Triana. **Sastra.**

See No. 27485 for description.

Seeds.

30493. ARRACACIA XANTHORRHIZA Bancr. **Arracacha.**

From Chiriqui.

Tubers.

30494. PERSEA sp. **Avocado.**

"A wild species of avocado which may be a good stock for grafting the finer varieties." (*Pittier.*)

Seeds.

30495. SPONDIAS CYTHEREA Sonnerat. **We fruit.**

This plant has generally been known under the name *Spondias dulcis* Forster, which was published in 1786 (De Plantis Esculentis, p. 33). Mr. P. J. Wester has called attention to the publication in 1782 of *Spondias cytherea* Sonnerat (Voyage aux Indes Orientales et a la Chine, vol. 2, p. 222, pl. 123), and as this is undoubtedly the same species as the one described by Forster, the earlier name should be used.

From Brisbane, Queensland, Australia. Presented by Mr. J. F. Bailey, director, Department of Agriculture and Stock. Received April 11, 1911.

See No. 26470 for description.

30496. MAIHUENIA POEPPIGII (Otto) Philippi.

From Chile. Received through Mr. José D. Husbands, Limavida, via Molina, Chile. Received April 13, 1911.

"*Opuntia maihuen* (Herba del Gunaco). A valuable plant for industry and ornament. Grows in dry, worthless, sandy waste, where nothing else will grow. The skinned plant and fruit are eaten as a refreshment. The plant contains an extra large quantity of gum, which I believe to be of industrial use and value. It completely covers the loose sand for about a meter in diameter. Collected from the drifting sands near the Volcano Antuco." (*Husbands.*)

30497. DIOSPYROS TESSELLARIA Poir.

From Port Louis, Mauritius. Presented by Mr. Gabriel Regnard. Received April 10, 1911.

See No. 30139 for previous introduction.

30498. WARNERIA AUGUSTA Stickman. **Cape jasmine.**

(Herbarium Amboinense, in Linnæus's Amoenitates Academicae, vol. 4, 1759, pp. 136, 138.)

The Cape jasmine has heretofore been listed in the Inventories as *Gardenia jasminoides* Ellis (Philosophical Transactions, vol. 51, 1761, p. 935, pl. 23). The following quotation from Ellis's article throws considerable light on this name:

"In July, 1758, I procured a specimen from Mr. Warner, for my friend, Dr. Linnæus's opinion. At the same time I wrote to the professor [Linnæus] that if he found it to be a new genus, agreeable to the description I had sent him, that he would please to call it Warneria after its worthy possessor [Richard Warner, of Woodford, in the county of Essex, England, the author of Plantae Woodfordienses, 1771]. * * * But Mr. Warner, refusing to have it so called and choosing that it should still remain a jasmine, as it is commonly called, I have thought of no man more worthy as a botanist than our friend Dr. Garden; accordingly, the professor has agreed to adopt this new genus by the name of Gardenia."

However, the generic name Warneria, suggested by Ellis, was actually published by Stickman two years before the publication of Gardenia. It was based on the plant described and figured by Burmann (Rumph's Herbarium Amboinense, vol. 7, 1755, p. 26, pl. 14) with the specific name *augusta* (spelled *Varneria augusta* on p. 136, and *Warneria angusta* on p. 138). This description and plate are generally accepted as applying to the Cape jasmine, and were cited by Linnæus in the first place in which he described the plant, under the name *Gardenia florida* (Species Plantarum, ed. 2, 1762, p. 305). Under present rules of botanical nomenclature this use of the binomial *Warneria augusta* and the citation of a previously published description

30498—Continued.

constitutes botanical publication, and it is therefore necessary to use this name for the Cape jasmine.

From Kuling, China. Presented by Mrs. John Berkin. Received March 1, 1911.

"Seeds of the favorite spring flower of the Chinese. In drying, the seeds stain the paper a bright yellow, which is indelible, as I found on my fingers. The Chinese use it in producing their yellow dyes. The bush is graceful and evergreen; the leaves are oblong; the flowers resemble a double white camellia, but with most exquisite perfume. It is a profuse bloomer, the flowers maturing before the leaf buds, being one of the earliest spring flowers.

"The seed pods are very much like those of the rose, but a bright orange yellow in color, and are quite ornamental on the bush among the leaves. Chinese name is Romanized *Chi-tse* flower." (*Berkin.*)

30499. MYRTUS ARAYAN H. B. K. **Arayan, or arrellano.**

From Mazatlan, Mexico. Collected by Mr. J. M. Goulding. Presented by Mr. F. W. Popenoe, Altadena, Cal. Received April 10, 1911.

"This tree grows to be 20 to 35 feet high, the trunk sometimes 15 inches in diameter, with smooth gray bark and erect branches. It seems to be cultivated somewhat extensively in Mexico. Fruit is greenish yellow, with a large irregular disk at the top and a smooth nutlet in the center; very juicy and said to have a rich, spicy, subacid flavor. One of the popular soft drinks of the country, said to be very refreshing, is made from it." (*Rose, J. N. Notes on Useful Plants of Mexico. Contributions from U. S. National Herbarium, vol. 5, no. 4.*)

Distribution.—From Panama southward to Peru.

30500 to 30503.

From central Asia. Presented by Dr. Isaac Bayley Balfour, director, Royal Botanic Garden, Edinburgh, Scotland. Received April 14, 1911.

Seeds of the following:

30500. HORDEUM VULGARE L. **Hull-less barley.**

Variety.

30501 and 30502. APOCYNUM HENDERSONI Hook.

"This yields the fiber from which the people largely make rope." (*Balfour.*)

One or two of the central Asian species of this genus give fiber especially suited for use in paper making, and this may also prove of value for this purpose.

30501. Brown fiber. **30502.** White fiber.

30503. CANNABIS SATIVA L. **Hemp.**

Female.

30504. MEDICAGO SATIVA L. **Alfalfa.**

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burtt Davy, agrostologist and botanist, Transvaal Department of Agriculture. Received April 17, 1911.

"Chinese lucern. This variety is described as growing equally well on hillsides and in valleys, even at high altitudes, where it is said to attain a height of 4 or 5 feet. It is also said to thrive in very salty, marshy land. I am unable to vouch for the correctness of these statements, but the plant seems to be worth trial." (*Davy.*)

30505 and 30506. HORDEUM spp. **Barley.**

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burtt Davy, agrostologist and botanist, Transvaal Department of Agriculture. Received April 17, 1911.

Seeds of the following:

30505. HORDEUM sp.

Nepaul.

30506. HORDEUM VULGARE TRIFURCATUM (Schlecht.) Beaven.

30508. LARIX LEPTOLEPIS (Sieb. and Zucc.) Gord. **Japanese larch.**

From Copenhagen, Denmark. Presented by Mr. S. T. Dana, Acting Chief of Silvics, Forest Service, U. S. Department of Agriculture, who procured it from Mr. Johannes Rafn. Received April 17, 1911.

See No. 6672 for previous introduction.

Distribution.—Slopes of the mountains in northern and central Japan extending from Hokushu southward to the region around Yokohama.

30509. MAGNOLIA CAMPBELLII Hook. f. and Thoms. **Magnolia.**

From Sibpur, Calcutta, India. Purchased from Maj. A. T. Gage, superintendent, Royal Botanic Garden. Received April 17, 1911.

See No. 28660 for previous introduction.

Plants.

30510. MUSA BASJOO Sieb. and Zucc. **Plantain.**

From Chiddingfold, Surrey, England. Purchased from V. N. Gauntlett & Co. (Ltd.). Received April 17, 1911.

"This is not hardy at Kew, but in the southwest of England (Cornwall) it can be grown in the open air, though even there it runs risks." (*Dr. David Prain, director, Royal Botanic Gardens, Kew, England.*)

Distribution.—In the Nansei Archipelago and also cultivated in the southern part of Japan.

30511. LYCORIS AUREA (L'Herit.) Herbert.

From Yachowfu, Szechwan, China. Presented by Mr. C. A. Salquist at the request of Mr. H. J. Openshaw. Received April 22, 1911.

"Bulbs of a yellow lily. I have not seen this particular kind of a lily in America, but it may be quite common." (*Salquist.*)

Distribution.—A bulbous plant found in the provinces of Kiangsu and Hupeh in China, and cultivated in Japan.

30512. SAPIUM VERUM Hemsl. **White rubber.**

Caucho blanco.

From the plantation "La Tigra," Cuesta de Tocota, on the road from Cali to Buenaventura, Colombia. Procured by Mr. Henry J. Eder, former American consular agent at Cali, Colombia; forwarded through Mr. Charles H. Small, American vice and deputy consul general, Bogota, Colombia. Received April 19, 1911.

See No. 24640 for description.

Seeds.

30513. NICOTIANA TABACUM L. **Tobacco.**

From Manicaragua, Santa Clara, Cuba. Presented by Mr. Francisco A. Montero, Santa Clara, Santa Clara Province, Cuba. Received April 18, 1911.

"Considered by experts of this country as the best variety of tobacco in the island of Cuba." (*Montero.*)

30514. CASTILLA PANAMENSIS Cook. **Central American rubber.**

From Panama. Collected by Mr. H. Pittier, Bureau of Plant Industry. Received April 20, 1911.

One of the six rubber-producing trees of this genus native to Panama, where it was collected by the Smithsonian Institution Biological Survey of the Canal Zone.

Seeds.

30515. PASSIFLORA EDULIS Sims. **Passion fruit.**

From Raratonga, Cook Islands. Presented by Mr. North Winship, American consul, Tahiti, Society Islands. Received April 20, 1911.

"These fruits are not grown in Tahiti, but are imported as a table fruit." (*Winship.*)

30516 to 30521.

From Buitenzorg, Java. Presented by the Director of Agriculture. Received April 21, 1911.

Seeds of the following:

30516 and **30517.** TALAUMA MUTABILIS Blume.

30516. See No. 28794 for previous introduction.

30517. Variety *longifolia.*

30518 to **30521.** DIOSPYROS spp.

These species were introduced for the work of testing all the procurable species of this genus as stocks for the better varieties and for breeding purposes.

30518. DIOSPYROS DISCOLOR Willd.

30519. DIOSPYROS sp.

30520. DIOSPYROS CAULIFLORA Blume.

Distribution.—At an elevation of 500 feet on the calcareous mountains in the province of Bantam, Java.

30521. DIOSPYROS MACROPHYLLA Blume.

Distribution.—On the slopes of the mountains in the island of Java.

30522 to 30584.

From Tiflis, Caucasus, Russia. Presented by Mr. A. Rolloff, director, Botanic Garden. Received April 18, 1911.

Seeds of the following:

30522. PAEONIA CORALLINA Retz. **Peony.**

Distribution.—Central and southern Europe, and eastward to Armenia and northern Persia.

30523. PAEONIA MLOKOSEWITSCHI Lomakin. **Peony.**

See No. 27674 for previous introduction.

30524. CASTALIA ALBA (L.) Greene. **Water lily.**

Distribution.—Lakes and slow streams throughout Europe, and in northern and central Asia.

30522 to 30584—Continued.

30525. Papaver orientale L. **Poppy.**

Distribution.—Throughout the Caucasus region and northern Persia; generally cultivated.

30526. Crambe orientalis L.

Distribution.—Asia Minor, Kurdistan, and eastward through northern Syria to Persia.

30527. Tamarix hohenackeri Bunge. **Tamarisk.**

Distribution.—Saline regions in the vicinity of Tiflis in the Caucasus region.

30528. Tilia flava Wolny. **Linden.**

Distribution.—On the slopes of the Balkan Mountains in Bulgaria and Bosnia, and in Asia Minor.

30529. Erodium ciconium (Juslen.) Willd.

Distribution.—The countries bordering on the Mediterranean from Spain and Italy eastward to Syria.

30530. Erodium oxyrhinchum Bieb.

Distribution.—Sandy hillsides in the Caucasus region and eastward through northern Persia to Turkestan.

30531. Acer trautvetteri Medw. **Maple.**

Distribution.—The Caucasus region of southeastern Russia and northern Persia.

30532. Acer insigne Boiss. and Buhse. **Maple.**

Distribution.—On the slopes of the mountains in the provinces of northern Persia bordering on the Caspian Sea.

30533. Acer laetum Meyer. **Maple.**

Distribution.—In woods in Armenia and the northern part of Persia.

30534. Staphylea pinnata L. **Bladder nut.**

Distribution.—Southern Europe and western Asia extending from Germany and Italy eastward to the Caucasus region and to Syria.

30535. Euonymus europaeus L. **Spindle tree.**

See No. 2660 for previous introduction.

Distribution.—Throughout Europe and eastward to the region of the Ural Mountains in Siberia.

30536. Rhamnus catharticus L. **Purging buckthorn.**

See No. 30246 for previous introduction.

30537. Rhamnus frangula L. **Alder buckthorn.**

See No. 30248 for previous introduction.

30538. Rhamnus imeretinus Booth. **Buckthorn.**

Distribution.—The province of Kars in the Trans-Caucasian region of southeastern Russia.

30539. Trifolium arvense L. **Rabbit-foot clover.**

See No. 9751 for previous introduction.

30540. Trifolium spumosum L. **Clover.**

See No. 30102 for previous introduction.

30541. Trifolium tumens Stevens. **Clover.**

Distribution.—In low fields and on mountain slopes in the Caucasus region.

30522 to 30584—Continued.

30542. TRIFOLIUM AMBIGUUM Bieb. **Clover.**

Distribution.—High fields and lower alpine slopes of the mountains in the Caucasus region, and in Armenia.

30543 and 30544. TRIFOLIUM FILIFORME L. **Suckling clover.**

See No. 20662 for previous introduction.

30545. MELILOTUS NEAPOLITANA Tenore.

Distribution.—The countries bordering on the Mediterranean from Spain and southern France through Italy, the Balkan Peninsula, and Asia Minor to Persia, and in northern Africa.

30546. CARAGANA GRANDIFLORA DC. **Siberian pea tree.**

Distribution.—On dry hillsides in the Trans-Caucasian region of Russia, and in Armenia, and the region around the Caspian Sea.

30547. ASTRAGALUS CRUCIATUS Link.

Distribution.—In dry and rocky fields in Asia Minor and Syria.

30548. ASTRAGALUS HAMOSUS L.

See No. 30108 for previous introduction.

30549. ASTRAGALUS VICIAEFOLIUS DC.

Distribution.—The Caucasus region of Russia and in Asia Minor.

30550. ASTRAGALUS DENSIFOLIUS Lam.

Distribution.—On the subalpine slopes of the mountains in Armenia.

30551. ASTRAGALUS MOLLIS Bieb.

Distribution.—Arid places in the Caucasus region and in Armenia and western Persia.

30552. ASTRAGALUS GALEGIFORMIS L.

See No. 4140 for previous introduction.

Distribution.—Slopes of the mountains in the Trans-Caucasian region and in Armenia.

30553. ASTRAGALUS SCHAHRUDENSIS Bunge.

Distribution.—The provinces of northern and central Persia; especially frequent in the vicinity of Teheran.

30554. ASTRAGALUS FALCATUS Lam.

See Nos. 20708 and 20727 for previous introductions.

Distribution.—The Caucasus region of southern Russia, the region of the Ural Mountains of Siberia, and in Armenia.

30555. ASTRAGALUS CEPHALOTES Pallas.

Distribution.—The Trans-Caucasian region of Russia and in northern Persia.

30556. ASTRAGALUS SANGUINOLENTUS Bieb.

Distribution.—Rocky slopes of the eastern Caucasus Mountains in northern Persia.

30557. ASTRAGALUS BRACHYCARPUS Bieb.

Distribution.—On the slopes of the mountains in the Trans-Caucasian region of southeastern Russia and northern Armenia.

30558. VICIA TENUIFOLIA Roth.

See No. 24465 for previous introduction.

30559. VICIA ERVILIA (L.) Willd. **Bitter vetch.**

30522 to 30584—Continued.

30560. VICIA HIRSUTA (L.) S. F. Gray.

See Nos. 9237 and 16460 for previous introductions.

Distribution.—Europe and southern Asia, extending from France and Germany eastward to Persia and northern India, and in Abyssinia.

30561. LATHYRUS CICERA L.

Distribution.—Waste places along cultivated fields in central and southern Europe, western Asia, and northern Africa.

30562. GLEDITSIA CASPICA Desf.

See Nos. 27335, 27516, and 27517 for previous introductions.

30563. PRUNUS MICROCARPA Meyer. **Cherry.**

See Nos. 27303, 27337, and 28946 for previous introductions.

30564. PRUNUS PROSTRATA Labill. **Bush cherry.**

See No. 28945 for previous introduction.

30565. LAUROCERASUS OFFICINALIS Roem. **Cherry laurel.**

30566. PYRUS NIVALIS ELAEAGRIFOLIA (Pall.) Schneider. **Wild pear.**

See Nos. 27134 and 27670 for previous introductions.

30567. CRATAEGUS MONOGYNA Jacq. **Hawthorn.**

Distribution.—Throughout Europe and northern Africa and eastward to northern India.

30568. ROSA GALLICA L. **Rose.**

See No. 28237 for previous introduction.

30569. SPIRAEA HYPERICIFOLIA L.

Distribution.—From the Caucasus region and Persia eastward to Mongolia and the region of Lake Baikal.

30570. CORNUS AUSTRALIS Meyer.

Distribution.—The provinces of eastern Turkey, southern Russia, Asia Minor, and northern Persia bordering on the Black and Caspian seas.

30571. LONICERA IBERICA Bieb.

Distribution.—On rocky mountain slopes of the Caucasus region of southeastern Russia and in northern Persia.

30572. LALLEMANTIA IBERICA (Bieb.) Fisch. and Meyer.

See No. 29932 for previous introduction.

30573. DAPHNE CAUCASICA Pallas.

Distribution.—In fields along streams in the Caucasus region and in northern Persia.

30574. ELAEAGNUS ANGUSTIFOLIA L. **Oleaster.**

30575. CELTIS CAUCASICA Willd.

Distribution.—On mountain slopes in Armenia and in northern Persia.

30576. FAGUS ORIENTALIS Lipsky. **Caucasian beech.**

See No. 27662 for previous introduction.

30577. POPULUS TREMULA L. **Aspen.**

See Nos. 29098 and 29357 for previous introductions.

30522 to 30584—Continued.

30578. IRIS MUSULMANICA Fomin. (?) **Iris.**

30579. IRIS IBERICA Hoffm. **Iris.**

Distribution.—In the Caucasus region, and in Armenia, and northern Persia, reaching an elevation of 7,000 feet.

30580. IRIS ACUTILOBA Meyer. **Iris.**

Distribution.—On dry hillsides in the province of Baku, in the Caucasus region of southeastern Russia and southward to Teheran, Persia.

30581. IRIS ACUTILOBA Meyer. **Iris.**

Variety *bimaculata*.

30582. IRIS PUMILA L. **Iris.**

Distribution.—Southern Europe, extending from Austria and Dalmatia eastward to the Caucasus region, and in Siberia.

30583. IRIS FLAVESCENS Delile. **Iris.**

Distribution.—The Caucasus region of Russia and in Armenia.

30584. IRIS PALLIDA Lam. **Iris.**

See No. 28457 for previous introduction.

30585 to 30591.

From the Royal Botanic Garden, Rome, Italy. Presented by Mr. Oglesby Paul, landscape gardener, Horticultural Hall, Fairmount Park, Philadelphia, Pa. Received April 11, 1911.

Seeds of the following:

30585. ARAUJIA SERICIFERA Brot.

Distribution.—A climbing, shrubby vine with small racemes of purple flowers found in Peru and in southern Brazil.

30586. CARICA QUERCIFOLIA (St. Hil.) Benth. and Hook.

See No. 3534 for description.

Distribution.—The southeastern part of Brazil, and in Paraguay, Uruguay, and Argentina.

30587. EPHEDRA FRAGILIS Desf.

Distribution.—A shrub found in the countries at the western end of the Mediterranean, extending from southeastern Spain and Sicily to the Canary and Madeira Islands, Morocco, and Algeria.

30588. EPHEDRA ALTISSIMA Desf.

Distribution.—A shrub found in fields in Morocco and Algeria.

30589. MALLOTUS JAPONICUS (Thunb.) Muell. Arg.

Distribution.—A small tree occurring in the provinces of Hupeh, Szechwan, and Kwangtung in China, and in Formosa, the Nansei Archipelago, and in Japan.

30590. PEUCEDANUM VERTICILLARE (L.) Mert. and Koch.

Distribution.—Southern Europe, extending from France and Spain eastward through Germany and Italy to Austria-Hungary.

30591. PEUCEDANUM OREOSELINUM (L.) Moench.

Distribution.—Central and southern Europe, extending from Denmark, Germany, and Spain eastward to the Caucasus region of Russia.

30592. ZINZIBER OFFICINALE Rosc. **White ginger.**

From Tsinan, Shantung, North China. Presented by Mr. J. S. Whitewright, Tsinan Institute. Received April 21, 1911.

"These specimens are, I believe, of somewhat better quality than those formerly sent (No. 29355)." (*Whitewright.*)

30593 to 30601. GLYCINE HISPIDA (Moench) Maxim. **Soy bean.**

From Manchuria. Procured through Mr. Edward C. Parker, Agricultural Experiment Station, Mukden, Manchuria. Received April 19, 1911.

Seeds of the following; quoted notes by Mr. Parker:

30593. "Yellow. Chinese name *Huang tou.* Sample collected at Ninguta, in Kirin Province, 45° north latitude. Ninguta is a Chinese town about 10 miles south of the Trans-Siberian Railway and halfway between Harbin and Vladivostok. The Ninguta beans are famous as seed beans, large quantities being distributed among the Chinese in Kirin Province for seed purposes. The date of maturity for this variety is the last week in September, the crop having occupied the land about 130 days. This variety is known to have been grown in the Ninguta district for 40 years, or since the time the country was opened for settlement. Chinese state that the variety is prized for its thin skin, heavy weight per bushel, and its high oil content."

30594. "Green. Chinese name *Ching tou.* Sample collected at Ninguta (see No. 30593). No information is available concerning time of maturity or special qualities of this variety. It has been grown at Ninguta for about 40 years."

30595. "Big, round, green. Chinese name *Tah ching yuan tou.* Sample collected at Antung, in southeast Shengking Province, 40° north latitude. Antung is west of the Yalu River, which divides Chosen (Korea) and Manchuria. No information is available concerning the time of maturity, special qualities, or length of time this variety has been grown in the Antung region. From my own observations, however, I will say that the green soy beans of the Antung region require more time to mature than the small, yellow soy beans of the north. Antung has been settled by Shantung Province people for about 75 years and the variety is doubtless somewhere near the same age. The first recorded exports of soy beans from Manchuria took place from a port in this region (Takushan) about the year 1830."

30596. "Small, round, green. Chinese name *Hsiao ching yuan tou.* Sample collected at Antung (see No. 30595)."

30597. "Big, iron corner, green. Chinese name *Tah tie chiao ching tou.* Sample collected at Antung (see No. 30595)."

30598. "Small, iron corner, green. Chinese name *Hsiao tie chiao ching tou.* Sample collected at Antung (see No. 30595)."

30599. "Compact, round. Chinese name *Chin yuan tou.* Sample collected near Ninguta. Probably the same variety as the 'yellow soy bean' (No. 30593). No description can be furnished other than that given under that number."

30600. "Compact, round. Chinese name *Chin yuan tou.* Sample collected at Shuangchengfu in Kirin Province, 45° north latitude. Shuangchengfu is a Chinese town about 40 miles south of Harbin on the southern division of the Russian railway. One of the most extensive and fertile soil areas in Manchuria is tributary to Shuangchengfu. This variety is undoubtedly the

30593 to 30601—Continued.

30600—Continued.

same common stock as Nos. 30593 and 30599. It matures in about 130 to 140 days and is prized (according to Chinese report) for its thin skin, heavy weight per bushel, and high oil content. It has been grown in this district for about 40 years."

30601. "Compact, round. Chinese name *Chin yuan tou.* Sample collected near Petuna, southwest of Harbin, at the confluence of the Nonni and the Sungari rivers, about 45° north latitude. Soy beans have not been grown more than 15 years in this district because the land was held until recently as an imperial preserve. The variety is doubtless the same common stock as Nos. 30593 and 30599."

30602 to 30604. TRITICUM AESTIVUM L. **Wheat.**

From San Luis Potosi, Mexico. Presented by Mr. Wilbert L. Bonney, American consul. Received April 22, 1911.

Seeds of the following:

30602. Red.

30603. White.

30604. Mixed.

"While San Luis Potosi is not a wheat-growing district, yet there is a certain amount of land to the south and west of the capital where wheat is raised, probably yielding about 200,000 bushels within the State. This wheat land extends southward and westward into Guanajuato and Jalisco. The varieties of wheat raised are red, white, and mixed. Medium-soft red wheat is said to give the best results, and the grade produced improves toward the south of the district mentioned above." (*Bonney.*)

30605. CITRUS sp.

From Bahia, Brazil. Presented by Mr. Southard P. Warner, American consul. Received April 24, 1911.

"Seed of *Laranja da Terra.* This variety of citrus is used extensively at Bahia, the home of the Bahia navel oranges, as a stock on which to graft this remarkable seedless orange which has been so phenomenally successful in America. It is claimed that the Bahia navel when grafted on this stock thrives and bears better than when worked on the other common citrus stock known as the *Laranja tanga.*

"There is some doubt as to whether these are really distinct varieties or simply names given by cultivators to designate seedlings grown on the particular plantation from those grown elsewhere." (*Fairchild.*)

Cuttings of this variety were received and listed under No. 29165.

30606 to 30610. STIPA spp. **Feather grass.**

From Erfurt, Germany. Purchased from Haage & Schmidt. Received April 25, 1911.

Seeds of the following:

30606. STIPA ELEGANTISSIMA Labill.

Distribution.—In the river valleys and along the coast in the provinces of South and West Australia, New South Wales, and Victoria in Australia, and also reported from Tasmania.

30607 and 30608. STIPA GIGANTEA Link.

Distribution.—In sandy places in Portugal and Spain, and in the island of Sicily.

30606 to 30610—Continued.

30609. STIPA PENNATA L.

Distribution.—Europe and western Asia, extending from the British Isles and Spain eastward to western Siberia, Afghanistan, and Armenia.

30610. STIPA SPLENDENS Trin.

Distribution.—The region of Siberia east of Lake Baikal.

30611. PISTACIA ATLANTICA Desf. **Betoom.**

From Maison Carree, Algeria. Presented by Dr. L. Trabut, Algiers, Algeria. Received April 25, 1911.

See No. 9325 for description.

30612 and 30613. SOLANUM NIGRUM L. **Nightshade.**

From France. Presented by Vilmorin-Andrieux & Co., Paris, France. Received April 25, 1911.

Seeds of the following:

30612. "Morelle de l'Ile de France (Mascareigne Brède, nightshade spinach)."

30613. "Morelle noire (nightshade)."

"The former kind, which is cultivated in Mauritius under the name of Brède, does not differ botanically from the common kind (morelle noire), but is more vigorous and larger in all its parts." (*Vilmorin-Andrieux & Co.*)

30614 to 30619. PUNICA GRANATUM L. **Pomegranate.**

Material furnished this office by Mr. T. H. Kearney, Physiologist in Charge, Alkali and Drought Resistant Plant Breeding Investigations, Bureau of Plant Industry. Numbered April 26, 1911.

Plants of the following; notes by Mr. Kearney:

30614. "Green-skinned, sweet variety, from cuttings furnished by Miss Ida Munro, Putnam, Ga."

30615. "Red, sweet, from same source as preceding."

30616. "Subacid, from same source as preceding."

30617. "From Mexico; cuttings furnished by Mr. Alexander Gaw."

30618. "From Mexico; cuttings furnished by Señor Romulo Escobar."

30619. "Cuttings from the hardy bush at the east entrance of the Smithsonian Institution Building, Washington, D. C."

30620 and 30621.

From Palestine. Presented by Mr. Aaron Aaronsohn, director, Jewish Agricultural Experiment Station, Haifa, Palestine. Received April 25, 1911.

Seeds of the following:

30620. CITRUS LIMETTA Risso. **Sweet lime.**

"The Jaffa orange, which is the great commercial orange of Palestine, 800,000 cases being exported annually, is generally grafted on this special sweet lime, which Mr. Aaronsohn writes us is not used either in North Africa or in the United States. As a stock this sweet lime requires less water and produces trees yielding earlier fruit than does the bitter orange." (*Fairchild.*)

30621. ZIZIPHUS JUJUBA Miller. **Jujube.**

"*Anaab*, in Arabic. These seeds came from trees growing in the gardens in the vicinity of Nablus (Shechem) on dry, rocky, and calcareous hills." (*Aaronsohn.*)

30622 and 30623. MEDICAGO SATIVA L. **Alfalfa.**

From Palestine. Presented by Mr. Aaron Aaronsohn, director, Jewish Agricultural Experiment Station, Haifa, Palestine. Received April 25, 1911.

Seeds of the following; notes by Mr. Aaronsohn:

30622. "*Fussa.* The current variety cultivated in and around Damascus."

30623. "*Fussa* (*Menoukhie*). A selected variety of No. 30622."

30624. VACCINIUM VITIS-IDAEA L. **Cowberry.**

From Hamburg, Germany. Presented by Mr. C. Widmaier, inspector, Botanical Gardens and Museum. Received April 26, 1911.

Introduced for purposes of botanical study and breeding work.

Rooted cuttings.

30625 and 30626. COLOCASIA spp. **Dasheen.**

From Hilo, Hawaii. Presented by Mr. F. A. Clowes, superintendent, Hilo and Olaa Substations, Hawaii Agricultural Experiment Station. Received April 25, 1911.

Tubers of the following:

30625. *Palaii.*

30626. *Royal White* or *Lehua keo-keo.*

"Tubers purple fleshed and apparently nonacrid. The sprouts are also purple." (*R. A. Young.*)

See No. 29840 for further remarks.

30627. SPONDIAS PINNATA (L.) Kurz.

From Peradeniya, Ceylon. Presented by Mr. H. F. Macmillan, curator, Royal Botanic Garden. Received April 26, 1911.

30628 to 30671.

Received through Mr. Frank N. Meyer, agricultural explorer, April 24, 1911.

Seeds and cuttings as follows:

30628. PRUNUS ARMENIACA L. **Apricot.**

From Bis-Karim, Chinese Turkestan. "(No. 908, January 20, 1911.) A variety of apricot called *Zeile Anjan.* Fruits medium large, red; early." (*Meyer.*)

30629. PRUNUS ARMENIACA L. **Apricot.**

From Bis-Karim, Chinese Turkestan. "(No. 909, January 20, 1911.) A variety of apricot called *Ak-yarlik.* Fruits of pale color, medium large; ripening early, in June." (*Meyer.*)

30630. PRUNUS ARMENIACA L. **Apricot.**

From Bis-Karim, Chinese Turkestan. "(No. 911, January 20, 1911.) A variety of apricot, called *Kara-Anjan.* Fruits medium large, dark red, fresh, sweet; a late ripener, August." (*Meyer.*)

30631. PRUNUS ARMENIACA L. **Apricot.**

From Bis-Karim, Chinese Turkestan. "(No. 912, January 20, 1911.) A variety of apricot called *Guanauruk.* Fruits large, pale-orange colored. Kernels large and sweet. See also remarks under No. 30311." (*Meyer.*)

30632. PRUNUS ARMENIACA L. **Apricot.**

From Bis-Karim, Chinese Turkestan. "(No. 913, January 20, 1911.) A variety of apricot called *Ak-Tuyan.* Fruits very pale yellow, very large, medium early in ripening. A rare local variety." (*Meyer.*)

30628 to 30671—Continued.

30633. Elaeagnus angustifolia L. **Oleaster.**

From Kashgar, Chinese Turkestan. "(No. 923, January 29, 1911.) This bears large fruits of a pale-orange color. It is a vigorous grower. Seeds sent under No. 30412; see this number for further remarks. Native name *Djigda*." (*Meyer*.)

30634. Prunus armeniaca L. **Apricot.**

From Kashgar, Chinese Turkestan. "(No. 924, January 31, 1911.) A very early variety of apricot. Fruits smooth, of red color. Kernel sweet." (*Meyer*.)

30635. Malus sp. **Apple.**

From Kashgar, Chinese Turkestan. "(No. 928, February 4, 1911.) An apple called *Kizil alma*. Fruits large, of red color and fresh, sweet taste. Ripens in July. Suitable for hot, dry regions." (*Meyer*.)

30636. Eruca sativa Hill. **Roquette.**

From near Kurvas, Chinese Turkestan. "(No. 1510a, December 4, 1910.) A plant called *Sarich beda*, meaning yellow lucern. Grows as an annual weed in wheat and barley fields at an altitude of about 8,000 feet. Said to be much liked by cattle. To be tested in the cooler regions of the United States." (*Meyer*.)

Distribution.—An annual plant belonging to the mustard family and growing in the countries bordering on the Mediterranean from Spain to Syria and in northern Africa, and extending eastward to Turkestan.

30637. Apocynum venetum L.

From Yarkand, Chinese Turkestan. "(No. 1517a, November 9, 1910.) A fiber plant, growing on moist, saline, sandy places. The natives make ropes and string from the fiber, but it is not considered a very good material. These plants are not cultivated in any way, but grow in a jungle, more or less in the sandy expanses along watercourses. As the rhizomes are capable of running considerable distances, these plants should be tested where there is no chance of their becoming a nuisance. There seems to be some variation in quality and color of the fiber, probably due to soil and to treatment. It is said that this Apocynum fiber is exported from Kulja to Russia and that it forms an ingredient in the Russian bank notes. This variety is called *Ak-chilga*, meaning white fiber, and was collected not far from Yarkand. Obtained through the Hon. George Macartney, British consul, Kashgar." (*Meyer*.)

Distribution.—Southern Europe and Asia, extending from northern Italy through Russia and Dzungaria to China.

30638. Apocynum venetum L.

From Yarkand, Chinese Turkestan. "(No. 1518a, November 9, 1910.) This variety is called *Tokachilga*. It was collected near Merket, to the north of Yarkand, where veritable jungles of it are said to exist. It is supposed to be much taller growing than the preceding number (No. 30637), but is of an inferior quality. It was obtained through the same source." (*Meyer*.)

30639. Citrullus vulgaris L. **Watermelon.**

From Kashgar, Chinese Turkestan. "(No. 1522a, January 28, 1911.) A watermelon of round-oval shape, medium size, light-green rind, dark-red flesh of very sweet taste; seeds black, with curious markings. An early ripener, but not a keeper. To be tested like No. 30396." (*Meyer*.)

30628 to 30671—Continued.

30640. CUCUMIS MELO L. **Muskmelon.**

From Guma, Chinese Turkestan. "(No. 1523a, November 16, 1910.) A large, oval winter melon of excellent keeping and shipping qualities. Rind rough and of yellow color; flesh white, firm, of fresh, sweet taste. Does best in a light, sandy soil.

"All these central Asian melons will do best in those parts of the United States where the summers are very hot and dry and where the soil contains some saline matter." (*Meyer.*)

30641. CUCUMIS MELO L. **Muskmelon.**

From Karawag, Chinese Turkestan. "(No. 1524a, December 10, 1910.) A rare, local variety of melon, called *Tuna*. This melon often grows 1 yard long, while not being any thicker around than a beet root. It will keep until June. The flesh is white, not very juicy, but firm; taste moderately sweet; rind yellowish green; few seeds. Stands shipping remarkably well. Could be served sliced like pineapple at high-class dinners in the middle of winter." (*Meyer.*)

30642. CUCUMIS MELO L. **Muskmelon.**

From Shagra-bazar, Chinese Turkestan. "(No. 1527a, December 23, 1910.) An early melon of medium size and long oval shape. Rind dark green; flesh reddish, not very sweet. A good keeper and shipper. Called *Kara Kutcha*." (*Meyer.*)

30643. CUCUMIS MELO L. **Muskmelon.**

From Kashgar, Chinese Turkestan. "(No. 1530a, January 28, 1911.) A very early, small melon of green color, flattened shape, slightly ribbed; flesh yellowish green and honeysweet. Called *Kara Kash*." (*Meyer.*)

30644. PRUNUS ARMENIACA L. **Apricot.**

From Oasis of Sandju, Chinese Turkestan, altitude 6,000 feet. "(No. 1537a, December 4, 1910.) Stones of cultivated apricots, collected here and there. To be sown out in some dry northern locality to obtain hardy types. See remarks made under No. 30355." (*Meyer.*)

30645. PRUNUS ARMENIACA L. **Apricot.**

From Khotan, Chinese Turkestan. "(No. 1538a, November 24, 1910.) A variety of apricot called *Guana* or *Guama uruk*. See remarks made under No. 30311." (*Meyer.*)

30646. PRUNUS ARMENIACA L. **Apricot.**

From Karghalik, Chinese Turkestan. "(No. 1539a, December 12, 1910.) An apricot said to be *Guana uruk*. There are, however, bitter kernels in this lot, and therefore they are mixed, as the *Guana* has large sweet kernels. See remarks made under No. 30311." (*Meyer.*)

30647. AMYGDALUS PERSICA NECTARINA Ait. **Nectarine.**

From Khotan, Chinese Turkestan. "(No. 1540a, November 24, 1910.) A nectarine called *Togatch Moneck*. To be sown in a cold, dry climate to see if hardy types appear among them." (*Meyer.*)

30648. AMYGDALUS PERSICA NECTARINA Ait. **Nectarine.**

From Guma, Chinese Turkestan. "(No. 1541a, November 14, 1910.) A small late variety of nectarine, white in color, of fresh, sweet taste and good keeping qualities. To be sown out like preceding number (No. 30647)." (*Meyer.*)

30628 to 30671—Continued.

30649. PRUNUS sp. **Plum.**

From Langru, Chinese Turkestan. "(No. 1543a, November 26, 1910.) A plum called *I-nar-low*. Much used as a compote and stewed with meats. Said to aid the digestion of meat." (*Meyer.*)

30650. BERBERIS sp. **Barberry.**

From Pustan Terek, Chinese Turkestan. "(No. 1549a, December 29, 1910.) A tall-growing barberry; branches armed with long spines and bearing large blue berries. Found between rocks and in stony débris at altitudes of 6,000 to 8,000 feet. Of possible value as an ornamental park and garden shrub in the northern sections of the United States." (*Meyer.*)

30651. BERBERIS sp. **Barberry.**

From Pustan Terek, Chinese Turkestan. "(No. 1550a, December 29, 1910.) A very spiny, compact-growing barberry, bearing blue berries; found on a stony mountain slope at an altitude of about 7,000 feet. Of possible value as a hedge plant and an ornamental shrub in the northern sections of the United States." (*Meyer.*)

30652. FRAXINUS sp. **Ash.**

From Khanaka, Oasis of Sandju, Chinese Turkestan, altitude of 6,000 feet. "(No. 1552a, December 4, 1910.) This number is perhaps the same species of ash as No. 30414, but grew at a much higher elevation. To be tried in the dry, cold sections of the United States. Native name *I-mo-don*." (*Meyer.*)

30653. COLUTEA sp.

From near Kizil-Kurgan, Russian Turkestan. "(No. 1554a, October 11, 1910.) A spiny shrub growing here and there on dry, sunburned, rocky mountain slopes. Of possible value as an ornamental garden and park shrub in dry and hot sections of the United States." (*Meyer.*)

30654. CARAGANA sp.

From Pustan Terek, Chinese Turkestan. "(No. 1555a, December 28, 1910.) A Caragana of tall-growing habits, often attaining a height of 6 to 8 feet. Occurs on dry, stony places at altitudes of 6,000 to 8,000 feet. Native name, *Karagan*. Of possible value as an ornamental park and garden shrub in the northern sections of the United States." (*Meyer.*)

30655. CARAGANA sp.

From Pustan Terek, Chinese Turkestan. "(No. 1556a, December 28, 1910.) A Caragana of very dwarf, compact growth, occurring in stony débris at altitudes ranging from 6,000 to 8,000 feet. Apparently the same as sent under No. 30153. See remarks made under that number. To be tested in the northern sections of the United States. Native name *Karagan*." (*Meyer.*)

30656. LONICERA sp.

From near Irkestan, Russian Turkestan. "(No. 1557a, October 15, 1910.) A shrubby, compact-growing honeysuckle occurring in dry, stony, and wind-swept places. Cuttings sent under No. 29146, which number see for further remarks." (*Meyer.*)

30657. ROSA sp. **Rose.**

From near Khotan, Chinese Turkestan. "(No. 1558a, November 20, 1910.) A wild rose which, when grown in hedges, attains a height of 10 to 15 feet, but when standing alone only 5 to 6 feet. To judge by the fruits, it seems to be very floriferous. Stands drought and alkali well. Of value, possibly, as an ornamental shrub in large grounds or as a stock in hot, arid regions." (*Meyer.*)

30628 to 30671—Continued.

30658. NITRARIA RETUSA (Forsk.) Aschers.

From near Bis-Wick, Chinese Turkestan. "(No. 1559a.) The desert currant, a species closely allied to that of which seed was sent under No. 29250 from a different locality. See remarks under that number." (*Meyer.*)

Distribution.—The countries along the Mediterranean in northern Africa and eastward through Palestine and Syria to Turkestan.

30659. ASPARAGUS sp. **Asparagus.**

From Ism-Salah, Chinese Turkestan. "(No. 1560a, December 7, 1910.) A wild asparagus found on sandy, saline land. Of slightly twining habit and generally found growing in scattered clumps." (*Meyer.*)

30660. CALLIGONUM sp.

From near Guma, Chinese Turkestan. "(No. 1561a, November 16, 1910.) A small variety existing in absolutely sandy deserts; makes enormous long roots. Grubbed out and used as fuel by the natives. Is of good sand-binding qualities and should be tested for this purpose at some experiment station in a desert." (*Meyer.*)

30661. MELILOTUS ALBA Desr. **Sweet clover.**

From near Susan, Chinese Turkestan. "(No. 1562a, December 7, 1910.) A sweet clover occurring on dry, sandy places. Observed only once. To be tested in a hot, dry region, under irrigation." (*Meyer.*)

30662. ALHAGI PSEUDALHAGI (Bieb.) Desv. **Camel's thorn.**

(*Hedysarum pseudalhagi* Bieberstein, Flora Taurico-Caucasica, vol 2, p. 174, 1808.)

This leguminous manna-producing shrub was first given a distinctive binomial name by Bieberstein in 1808, as *Hedysarum pseudalhagi*. Fischer, in 1812 (Catalogue Jardin Gorenki, p. 72), transferred it to the genus Alhagi but used the name *Alhagi camelorum*, by which the plant has since been known. Desvaux (Journal de Botanique, vol. 1, 1813, p. 120) states that there are two species, *Alhagi mannifera* and *pseudalhagi*, but does not describe them. His evident intention being to publish the binomial *Alhagi pseudalhagi*, he is here given as the authority for the name.

From near San-Kia, Chinese Turkestan. "(No. 1563a, November 17, 1910.) A very prickly, herbaceous, perennial legume, occurring on very dry lands, often in pure sand and shifting sand at that; also found on rather strong alkaline soil. Its uses are as follows: On the places where it abounds in great quantities it is cut and harvested like hay, to be used as a fuel. Most of the bricks in Russian Turkestan have been baked by means of this fuel. It is also a favorite food of the camel, which browses upon the herbage as long as it is not too old; sheep and goats also like it when it is young and the spines have not become too hard. Lastly, as a sand binder it has great value, but only in locations far removed from lands that may become cultivated, for this camel's thorn becomes a very serious pest in cultivated fields and is extremely hard to eradicate, as it throws up suckers from its broken-off roots. The pinkish brown flowers, which appear in enormous masses and give color to whole desert landscapes in the month of June, seem to be rich in honey. This plant should be tested at some experiment station in the desert of the southwestern United States." (*Meyer.*)

30663. IRIS sp. **Iris.**

From near Upal, Chinese Turkestan. "(No. 1564a, December 31, 1910.) An Iris, probably *I. ensata*, found here and there along the fields on rather alkaline soils. The leaves form a very common tying material all through

30628 to 30671—Continued.

30663—Continued.

Chinese Turkestan, being mostly used to tie bunches of vegetables and grapes. Recommended as a tying-material supplier in the vegetable garden and as a lining plant along flower or shrubbery beds in dry, alkaline sections. It is said to flower prettily in early summer with small, pale-blue flowers. Probably a variety of No. 29264." (*Meyer.*)

30664. ELYMUS DAHURICUS Turcz. **Wild rye.**

From Pustan Terek, Chinese Turkestan, altitude of 6,000 to 7,000 feet. "(No. 1565a, December 29, 1910.) A tall perennial rye-grass occurring on dry loess banks along a ravine. Apparently rare. The long strong stems of golden-yellow color could be used perhaps to make straw braid; also to sip cool drinks through. To be tested in the Rocky Mountain regions or farther west." (*Meyer.*)

Distribution.—Dry, stony places in the southern part of Siberia from Turkestan eastward to the region beyond Lake Baikal.

30665. AGROPYRON ACUTUM (DC.) Roem. and Schult.

From Pustan Terek, Chinese Turkestan. "(No. 1566a, December 29, 1910.) A tall grass, occurring intermixed with the preceding one. May possess value as a forage grass in dry mountainous regions." (*Meyer.*)

Distribution.—Considered to be a possible hybrid between *Agropyron repens* and *A. junceum*, growing throughout Europe and eastward to China.

30666. SESLEREA ARGENTEA Savi.

From near Gagri, Caucasus, Russia. "(No. 1567a, February 1, 1911.) Found on mountain slopes between boulders and washed-down earth. May possess value as a fodder grass in mild-winter regions." (*Meyer.*)

Distribution.—Southern Europe and western Asia, extending from Spain through Italy, the Balkan region, and Bulgaria to Asia Minor and the Caucasus region.

30667. CUCUMIS SATIVUS L. **Cucumber.**

From Yarkand, Chinese Turkestan. "(No. 1568a, November 7, 1910.) A local variety of cucumber, called *Baddering*. Said to be small, whitish green, and early. To be tested under irrigation in the hot, arid sections of the United States." (*Meyer.*)

30668. CAPSICUM ANNUUM L. **Red pepper.**

From Yarkand, Chinese Turkestan. "(No. 1569a, November 7, 1910.) A variety of chili pepper of very bright-orange color. Shape medium long, nose blunt, and slightly ribbed. Native name *Kizil mutch*. To be tested like the preceding number (No. 30667)." (*Meyer.*)

30669. OCYMUM BASILICUM L. **Sweet basil.**

From Yarkand, Chinese Turkestan. "(No. 1570a, November 7, 1910.) This is very much grown all through Asia as a garden plant. Occurring in many varieties. Small bunches of the basil are worn on the side of the head, tucked away beneath the headcloth. Some religious meaning seems to be attached to it. Of value as a flavoring herb in regions where it is too warm for mint or thyme." (*Meyer.*)

30670. HORDEUM sp. **Barley.**

From Yarkand, Chinese Turkestan. "(No. 1581a, December 19, 1910.) A hull-less barley of opaque white color, called *Galangatch arpa*." (*Meyer.*)

30628 to 30671—Continued.

30671. TRITICUM AESTIVUM L. **Wheat.**

From Ism-Salah, Chinese Turkestan. "(No. 1582a, December 6, 1910.) A very large variety of summer wheat, called *Ak-boogdai*. Only a very small quantity obtained." (*Meyer.*)

30672. ANDROPOGON SCHOENANTHUS L. **Lemon grass.**

From Monghyr, Bengal, India. Presented by Mr. Lalit Mohan Sinha, Lalloo Pokhar Road. Received April 25, 1911.

"This is called *Agya Ghas*, or fire-grass, in Hindustani. It is used here with tea as a stimulant and to remove the pain consequent upon catching cold. In cases of sprains and hurts the leaves are made into a paste and applied over the painful part to alleviate the pain. Its oil is also used for the same purpose. It needs an alluvial soil to grow luxuriantly. The roots should be taken out every year after the rains and transplanted in a well-cultivated soft soil. It is not very much cultivated now and is being neglected, but the demand for it is increasing for medicinal use." (*Sinha.*)

Imported for the work of the Office of Drug-Plant, Poisonous-Plant, and Physiological Investigations in cultivating and testing all procurable species of oil-grasses.

Roots.

30673. SAPINDUS sp. **Soapberry.**

From Maison Carree, Algeria. Presented by Dr. L. Trabut, Algiers, Algeria. Received April 25, 1911.

Cuttings.

30674 to 30676.

From Shunking, West China. Presented by Rev. A. E. Evans. Received April 25, 1911.

Cuttings of the following:

30674. CITRUS sp.

30675. PRUNUS sp. **Plum.**

30676. MORUS sp. **Mulberry.**

30677. ZIZIPHUS JUJUBA Miller. **Jujube.**

From Tsining, via Tsinan, Shantung, China. Procured through Dr. Charles H. Lyon. Received April 26, 1911.

"These cuttings are from two trees growing in our compound that bear very nice fruit." (*Lyon.*)

30678. DIOSPYROS KAKI L. f. **Persimmon.**

From Tokyo, Japan. Presented by Miss B. Catherine Pifer. Received April 27, 1911.

"*Shibu kaki.* These grafts are from a species of the Diospyros, or *Mame kaki*, which is known as the best variety for the 'shibu' (juice of fruit). This is the natural fruit and is not edible. This species is found quite frequently in the country." (*Pifer.*)

"'Kaki-no-shibu' is the expressed juice of small, inedible varieties of persimmons. These persimmons are taken about two months before they ripen, i. e., in the middle of August, and crushed—seeds, calyx, and all—in a large stone mortar. Water is added, the juice is strained through coarse linen cloth, and it is then put into a large earthen jar which is closed with a wooden top; paper is pasted over this to make it air-

30678—Continued.

tight, it is placed in a cellar or cave to keep cool, and is ready for use. This fresh-strained juice is simply spread on paper with a brush, which is said to render the paper immune from the attacks of insects as well as less pervious to moisture. Cloth is sometimes treated with this juice, and it is also used for painting stencils, tanning fishing nets, and for other purposes." (*Fairchild.*)

Cuttings.

30679 to 30682. SOLANUM NIGRUM L. **Nightshade.**

From Albano, Stockholm, Sweden. Presented by Dr. Veit Wittrock, director, Botanic Gardens. Received April 26, 1911.

Seeds of the following. Introduced for the purposes of botanical study and breeding work.

30679. Yellow fruited.
30680. Black fruited.
30681. Gold fruited.
30682. Green fruited.

30683. MUSA TEXTILIS Nee. **Manila hemp.**

From Philippine Islands. Presented by Mr. M. M. Saleeby, in charge of fiber plants, Bureau of Agriculture, Manila, through Mr. Lyster H. Dewey. Received March 10, 1911. Numbered April 28, 1911.

Maguindanao.

30684 and 30685. CUCUMIS MELO L. **Muskmelon.**

From the sandy plains near Erivan, Russian Armenia, at the foot of Mt. Ararat. Presented by Mr. W. W. Masterson, American consul, Kharput, Mamuret-ul-Aziz, Turkey, who had them procured by Mr. Alexander Heingartner, American consul, Batum, Russia. Received April 27, 1911.

"These are the finest flavored of any melons I have ever tasted anywhere, and are good to eat from the time they mature in the late summer until some time after Christmas. A particular point in their favor is they are so firm that they can be shipped any distance." (*Masterson.*)

30686 to 30696.

From China. Collected by Mr. George Forrest; presented by Mr. A. K. Bulley, Liverpool, England. Received April 7, 1911.

Seeds of the following; quoted notes by Mr. Forrest:

30686. RHUS VERNICIFERA DC. **Lacquer tree.**

"The lacquer tree of Lichiang Range, western Yunnan."

Distribution.—Southern Asia, extending from the Himalayas in Kashmir, Sikkim, and Bhutan and the Khasi Hills in India eastward through China to Japan; also in the island of Java.

See Nos. 2189, 5016, and 8406 for previous introductions.

30687. PISTACIA CHINENSIS Bunge. **Pistache.**

"Another of the varnish trees of Yunnan, from Langkong Valley at 8,000 feet. Grows from 40 to 80 feet tall."

See Nos. 21970, 24659, and 29499 for previous introductions.

30688. PINUS ARMANDI Franch. **Pine.**

"A tree that reaches a height of 70 to 200 feet. Cones 9 to 12 inches. Fruits edible, sold in all the markets. Chinese name *Song-si.* From Lichiang Range, latitude 27° 20′ N., altitude 9,000 to 10,000 feet."

See No. 27046 for previous introduction.

30686 to 30696—Continued.

30689 to 30692. PRUNUS DOMESTICA L. **Plum.**

30689. "From Lichiang Valley. Small purple plum, damson, good."

30690. "From Lichiang Valley. Golden-drop plum, very fine."

30691. "Same as the preceding."

30692. "Same as the preceding."

30693. (Undetermined.)

"From Lichiang Valley."

Probably belongs to the Solanaceæ.

30694. DIOSPYROS LOTUS L.

"From Lichiang Valley. Tree 20 to 50 feet tall. Flowers yellow. Fruit brown, edible."

See Nos. 27512 and 29486 for previous introductions.

30695. TRACHYCARPUS EXCELSUS (Thunb.) Wendl. **Palm.**

"Common in most valleys. In cultivation for the foliage sheaths, fiber of which is used for ropes, matting, etc."

See Nos. 26907, 27456, 28179, and 28180 for previous introductions.

30696. (Undetermined.)

"From Langkono Plain."

30701. STACHYS SIEBOLDI Miq.

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received April 29, 1911.

Procured for the experiments of Dr. R. H. True, Office of Drug-Plant, Poisonous-Plant, and Physiological Investigations.

See No. 2195 for description.

30702 and 30703. SOLANUM spp.

From Kingston, Jamaica. Presented by Mr. W. Harris, Superintendent of Public Gardens. Received April 27, 1911.

Seeds of the following:

30702. SOLANUM SEAFORTHIANUM Andrews.

Distribution.—An herbaceous climbing vine found from Venezuela to Guiana, and in the West Indies; cultivated in Panama.

30703. SOLANUM ACULEATISSIMUM Jacquin.

30704 to 30706. CINCHONA spp. **Cinchona.**

From Kingston, Jamaica. Presented by Mr. W. Harris, Superintendent of Public Gardens. Received April 27, 1911.

Seeds of the following:

30704. CINCHONA sp.

Hybrid.

30705. CINCHONA OFFICINALIS L.

Distribution.—A tree growing in the tropical valleys of the Andes in Peru and Bolivia.

30706. CINCHONA SUCCIRUBRA Pavon.

LIBRARY

30707. PHOENIX DACTYLIFERA L. **Date.**

From Morocco. Purchased from McCaig, Gilchrist & Co., Glasgow, Scotland. Received April 29, 1911.

Tafilelt. See No. 18630 for description.

30708 and 30709.

From Hermosillo, Mexico. Presented by Mr. Louis Hostetter, American consul. Received April 27, 1911.

Seeds of the following:

30708. CICER ARIETINUM L. **Chick-pea.**

30709. TRITICUM AESTIVUM L. **Wheat.**

30710. SOLANUM CAPSICASTRUM Link.

From Milan, Italy. Presented by Fratelli Ingegnoli. Received April 27, 1911.

Fra Diavolo.

Distribution.—In the grassy plains along the Sapucahi River in the southern part of the province of Minas Geraes in Brazil.

30711. GOSSYPIUM HERBACEUM L. **Cotton.**

From Marash, Turkey. Presented by Mr. Paul N. Nersessian. Received April 26, 1911.

"This is what we call *Native of Marash.* It grows in a conical shape from 1 to 4 feet high, depending on the fertility of the land; usually yields well, that is, produces more bolls to a given area than other varieties, but ordinarily the amount of the lint from a given weight of bolls is less than the other varieties (Nos. 29028 and 29029)." (*Nersessian.*)

30712. MEDICAGO SATIVA L. **Alfalfa.**

From Pishpek, Semiryetschensk, Turkestan, Russia. Presented by Mr. Theo. Kryshtofovich, Russian Government Agricultural Commissioner, St. Louis, Mo. Received May 1, 1911.

30713 to 30736.

From Philippine Islands. Secured by Mr. C. V. Piper, Bureau of Plant Industry. Received April 17, 1911.

Seeds of the following; quoted notes by Mr. Piper:

30713. CANTHAROSPERMUM SCARABAEOIDEUM (L.) Baill.

"A leguminous vine growing in bushes and very fruitful. For testing in Florida."

Distribution.—Throughout the plains of India and up to an elevation of 6,000 feet in the western Himalayas and eastward to China and the Malay Archipelago; also in Madagascar.

30714. BAUHINIA ACUMINATA L.

"According to Mr. Merrill decidedly ornamental. It is a shrub 3 to 6 feet high. To be tested in Florida."

30715. COIX LACHRYMA-JOBI MA-YUEN (Rom.) Stapf. **Job's-tears.**

"This is a variety with soft seeds, cultivated in China and to a slight extent here. It should be tried as a summer grain crop in the United States. Seed can probably be had in quantity from China, but not here."

Distribution.—In the province of Sikkim and on the Khasi Hills in India and eastward through Burma, Cochin China, and Borneo to the Philippines.

30713 to 30736—Continued.

30716. TERAMNUS LABIALIS (L.) Spreng.

"A slender twining legume very abundant in thickets and often matting the ground in fields."

Distribution.—On the plains of India from the foot of the western Himalayas to Ceylon; generally naturalized throughout the Tropics and in Natal, South Africa.

30717. ARACHIS HYPOGAEA L. **Peanut.**

From Jolo.

30718 to 30720. RICINUS COMMUNIS L. **Castor bean.**

30718. From Negros Occidental.

30719. From Iloilo.

30720. From Iloilo.

30721 to 30726. VIGNA SINENSIS (Torner) Savi. **Cowpea.**

(Hasskarl, Catalogus Plantarum in Horto Botanico Bogoriensi, 1844, p. 279.)

The cowpea up to this time has been listed in these Inventories as *Vigna unguiculata* (L.) Walpers. Mr. C. V. Piper, in Bulletin 229, Bureau of Plant Industry, United States Department of Agriculture, p. 143, has identified the type specimen of *Dolichos unguiculatus* L. in the Linnæan Herbarium, on which *Vigna unguiculata* (L.) Walpers is based, as a species of Phaseolus which Urban in 1905 redescribed as *Phaseolus antillanus*. Apparently, therefore, the first name applied to the cowpea is *Dolichos sinensis* Torner (Centuria II. Plantarum, 1756, p. 28; reprinted in Linnæus's Amoenitates Academicae, vol. 4, 1759, p. 326), on which is based the name here used.

30721. Mixed, buff, and reddish brown seed contained in this lot. From Iloilo.

30722. Mixed, buff, and reddish brown seed contained in this lot. From Negros Occidental.

30723. Blackeye. From Jolo.

30724. Marbled reddish brown. From Negros Occidental.

30725. Black. From Jolo.

30726. Black. From Jolo.

30727 to 30730. PHASEOLUS CALCARATUS Roxb.

30727. Black.

30728. Greenish tan.

30729. Reddish brown.

30730. Brown and tan seeds mixed.

All of the above are from Iloilo.

30731 to 30733. PHASEOLUS RADIATUS L. **Adsuki bean.**

30731. Brown. From Moro Province.

30732. Green. From Jolo.

30733. Golden. From Iloilo.

30734 and 30735. CAJAN INDICUM Spreng. **Pigeon pea.**

30734. Black. From Iloilo.

30735. White. From Ilocos Sur.

30736. CHAETOCHLOA FLAVA (Nees) Scribner. **Millet.**

From Jolo.

30737. CITRUS LIMONUM Risso. **Lemon.**

From the Salvation Army Industrial Farm at Ani, Dalash P. O., via Simla, India. Grown at an elevation of 4,000 feet in the famous Kulu Valley in the Himalayas. Presented by Mr. F. Booth Tucker, Salvation Army, Simla, India. Received May 3, 1911.

"The trees and fruit from which these seeds were taken are very fine. I may add that we have had a particularly severe winter, with a considerable fall of snow in the valley. Our oranges and lemons were a good deal damaged by a hailstorm, but not by the accompanying frost and snow." (*Tucker.*)

30738. MEDICAGO SATIVA L. **Alfalfa.**

From Punjab, India. Presented by Mr. A. C. Hartless, superintendent, Government Botanical Gardens, Seharunpur, United Provinces, India. Received May 2, 1911.

"Received from the Economic Botanist, Punjab, who writes that it is the best variety grown in that province." (*Hartless.*)

30739. SOLANUM NIGRUM L. **Nightshade.**

From Isla de Pinos. Presented by Rev. Cal. Ogburn, Los Angeles, Cal. Received March 10, 1911. Numbered May 3, 1911.

Introduced for purposes of botanical study and breeding work.

30740. SOLANUM NIGRUM L. **Nightshade.**

From Chico, Cal. Received through Mr. R. L. Beagles, special agent acting in charge, Plant Introduction Garden. Received April, 1911. Numbered May 3, 1911.

Introduced for the same purposes as the above.

30741. OLEA EUROPAEA L. **Olive.**

From Sfax, Tunis. Purchased from Chatel & Jacquemart. through Mr. T. H. Kearney. Received May 2, 1911.

Chemlali. See Nos. 22762 and 22763 for previous introduction.

Truncheons.

30742. ANACARDIUM EXCELSUM (Bertero and Balbis) Skeels.

(*Rhinocarpus excelsa* Bertero and Balbis; Humboldt, Bonpland, and Kunth, Nova Genera et Species Plantarum, vol. 7, 1825, p. 6, pl. 601.)
(*Anacardium* (?) *rhinocarpus* DC., Prodromus, vol. 2, 1825, p. 62.)

This Colombian tree, closely related to the cashew nut, was first named *Rhinocarpue excelsa* by Humboldt, Bonpland, and Kunth in 1825, and was afterwards placed in the genus Anacardium by De Candolle, who used the generic name of the original authors for his specific name. The binomial *Anacardium excelsum*, which is the correct name for the species according to present rules of nomenclature, seems never to have been published.

Anacardium excelsum is a tall tree found in the valley of the Magdalena River in northern Colombia, in the vicinity of Caracas in Venezuela, and in Panama and San Salvador.

From San Jose, Costa Rica. Presented by Mr. C. Wercklé, Department of Agriculture. Received May 3, 1911.

This Costa Rican species of cashew is recommended by Mr. O. F. Cook for trial as a stock for the mango in Florida.

30743. COLOCASIA sp. **Dasheen.**

From Mukden, Manchuria. The region of production not exactly known, but said to be in the northern part of Chihli Province, China. Procured by Mr. Edward C. Parker, agriculturist, Bureau of Agriculture, Industry, and Commerce. Received May 3, 1911.

"*Taro.* Chinese name *Yu to.*" (*Parker.*)

"The tubers received were small and resembled those of the Japanese dasheens. They are mucilaginous and lacking in flavor when cooked. The tubers are nonacrid even when uncooked." (*R. A. Young.*)

30744 to 30748.

From Wulukai, 20 miles north of Kirin, the capital of Kirin Province, Manchuria, 44° north latitude. Procured by Mr. Edward C. Parker, agriculturist, Bureau of Agriculture, Industry, and Commerce, Mukden, Manchuria. Received May 3, 1911.

Seeds of the following; quoted notes by Mr. Parker:

"Wulukai is the center of one of the most famous and fertile soil areas of north Manchuria. The climate is one of great extremes, temperatures ranging from 42° below zero Fahrenheit to 96° above zero. Killing frosts occur occasionally as late as May 10 and may reoccur after September 20. This district is said to have been partially settled for 75 years and the varieties of beans are reputed to be of the same age."

30744 to **30747.** GLYCINE HISPIDA (Moench) Maxim. **Soy bean.**

30744. "Black-eyebrow soy bean. Chinese name *Hei mei tou.* This variety is classified by the Chinese as being medium late in date of maturity."

30745. Yellow. "White-eyebrow soy bean. Chinese name *Pei mei tou.* This variety is classified by the Chinese as being late in the date of maturity."

30746. Yellow. "Compact, round soy bean. Chinese name *Chin yuan tou.* This variety is classified by the Chinese as being late in date of maturity."

30747. "Big black soy bean. Chinese name *Tah hei tou.* This variety is classified by the Chinese as being very early in date of maturity. It is used principally as a feed for work horses and mules, also for bean curd and for oil production."

30748. PHASEOLUS RADIATUS L. **Mung bean.**

"Small green food bean. Chinese name *Hsiao liu tou.* Classified by the Chinese as being medium late in date of maturity. This variety is doubtless from the same stock as No. 28053. It is grown everywhere in Manchuria for human food, being boiled with kowliang or millet and also ground into meal, mixed with kowliang meal and made into vermicelli."

30749. IPOMOEA BATATAS (L.) Poir. **Sweet potato.**

From Auckland, New Zealand. Presented by Arthur Yates & Co. Received May 4, 1911.

"The New Zealand kumara has been chiefly grown by our native race, the Maori, and consequently any varieties which may have been distinct in the first place have long since become crossed so that it is now impossible to obtain separate sorts. The tubers sent are of the kumara which is known here as the New Zealand red-skinned kumara. This is a New Zealand variety which is in common use here." (*Yates & Co.*)

30750. NICOTIANA TABACUM L. **Tobacco.**

From Rosa Morada, Acaponeta District, Tepic, Mexico. Presented by Mr. Lauro Liadas, Director General of Agriculture, Mexico, Mexico. Received May 4, 1911.

"*Papantla.*"

30751. COLOCASIA sp. **Dasheen.**

From Arimao, Cuba. Presented by Mr. Robert M. Grey, Harvard Botanical Station, Central Soledad, Cienfuegos, Cuba. Received May 8, 1911.

"A dasheen of good quality. When cooked it is mealy and nearly white." (*R. A. Young.*)

30752. ZINZIBER OFFICINALE Rosc. **White ginger.**

From Tsining, via Tsinan, Shantung, China. Presented by Dr. C. H. Lyon. Received May 3, 1911.

30753 to 30763.

From Edinburgh, Scotland. Presented by Dr. Isaac Bailey Balfour, director, Royal Botanic Gardens. Received April 25, 1911.

Seeds of the following:

30753. BERBERIS VIRESCENS Hook. f. **Barberry.**

For previous introduction see No. 27122.

30754. BUDDLEIA ALBIFLORA Hemsl.

Distribution.—The Patung district in the province of Hupeh, China.

30755. LUPINUS ARBOREUS Sims.

30756. LUPINUS POLYPHYLLUS Lindl.

30757. LUPINUS POLYPHYLLUS Lindl.

Variety *moerheimi.*

30758. SCHIZONOTUS AITCHISONI (Hemsl.) Skeels.

(*Spiraea aitchisoni* and *Sorbaria aitchisoni* Hemsley, Gardeners' Chronicle, ser. 3, vol. 28, 1900, p. 254.)

This spirealike shrub from Afghanistan was named *Spiraea aitchisoni* by Dr. Hemsley, but in closing the article he remarks as follows: "There is also a difference of opinion as to the limits of the genus Spiraea. The name Sorbaria was long ago proposed for *S. sorbifolia;* and *S. lindleyana, S. grandiflora,* and *S. kirilowi* belong to the same group. Taking this view, our plant would have to be called *Sorbaria aitchisoni.*" The generic name Sorbaria was published by A. Braun (Ascherson, Flora Brandenburg, p. 177) in 1864, with one species *Sorbaria sorbifolia,* based on *Spiraea sorbifolia* L. But in 1830 Lindley (Introduction to the Natural System of Botany, p. 81) established the genus Schizonotus, also based on *Spiraea sorbifolia* L. It is therefore necessary to use the binomial proposed above.

Schizonotus aitchisoni was first discovered by Dr. Aitchison in the valley of the Kuram River in Afghanistan at elevations of 7,000 to 9,000 feet and has also been reported from the province of Kashmir in northern India.

30759. CLETHRA ARBOREA Solander.

Distribution.—A small tree with elliptical, serrate leaves and fragrant white flowers in spicate racemes, found in the Madeira Islands.

30753 to 30763—Continued.

30760. GLORIOSA SUPERBA L.

Distribution.—Throughout tropical India from the northwestern Himalayas to Ceylon and eastward to Malakka and Cochin China; also in the Mozambique district of eastern Africa and in Guinea on the western coast.

30761. CAJUPUTI HYPERICIFOLIA (Salisb.) Skeels.

(*Metrosideros hypericifolia* Salisb. Prodromus, 1796, p. 351).

The seeds of this Australian shrub belonging to the family Myrtaceæ were received under the name *Melaleuca hypericifolia* Smith (Transactions of the Linnean Society, vol. 3, 1797, p. 279). The generic name Melaleuca was published by Linnæus (Mantissa Plantarum, p. 105) in 1767, with one species, *M. leucadendra*, based on *Myrtus leucadendra* Stickman (Herbarium Amboinense, 1754, p. 9; reprinted in Linnaeus's Amoenitates Academicae, vol. 4, 1759, p. 120). However, in 1763, Adanson (Familles des Plantes, vol. 2, pp. 84, 530) had published the generic name Cajuputi, based on plate 16 of volume 2 in Rumph's Herbarium Amboinense, the same plate on which *Myrtus leucadendra* was founded. It is therefore necessary to use the generic name Cajuputi for the species congeneric with *Myrtus leucadendra* Stickman. This course has already been adopted by Lyons (Plant Names, Scientific and Popular, 1900, p. 74); see No. 30793.

Distribution.—A tall shrub with rich red flowers in spikes 2 inches long, found in damp places in the vicinity of Port Jackson in New South Wales, Australia.

30762. PRIMULA BULLEYANA Forrest. **Primrose.**

30763. PRIMULA LITTONIANA Forrest. **Primrose.**

30764 to 30822.

From Cambridge, England. Presented by Dr. R. Irwin Lynch, curator, University Botanic Garden, Cambridge University. Received April 25, 1911.

Seeds of the following:

30764. CLEMATIS INTEGRIFOLIA × VITICELLA. **Clematis.**

See No. 29927 for previous introduction.

30765. CLEMATIS GRAVEOLENS Lindl. **Clematis.**

Distribution.—On the temperate slopes of the western Himalayas at an elevation of 6,000 to 11,000 feet in northern India.

30766. CLEMATIS HERACLEAEFOLIA DC. **Clematis.**

Distribution.—On the slopes of the mountains in the provinces of Chihli and Shantung, China.

30767. CLEMATIS INTEGRIFOLIA L. **Clematis.**

See No. 28844 for previous introduction.

30768. CLEMATIS RECTA L. **Clematis.**

Distribution.—Southern Europe extending from northern Spain to central Russia.

30769. BERBERIS LYCIUM Royle. **Barberry.**

See No. 1603 for previous introduction.

Distribution.—On the dry, hot slopes of the Himalayas at an elevation of 3,000 to 9,000 feet in the northwestern part of India.

30770. × BERBERIS STENOPHYLLA Lindl.

30764 to 30822—Continued.

30771. CRAMBE CORDIFOLIA Stev.

Distribution.—An herbaceous perennial found in desert places at the foot of the northern slope of the Caucasus Mountains in the vicinity of Pyatigorsk and Mozdok, Russia.

30772. PITTOSPORUM CRASSIFOLIUM Solander.

Distribution.—Along the shores of the islands of New Zealand.

30773. PITTOSPORUM HETEROPHYLLUM Franchet.

Distribution.—A shrub 6 to 12 feet high growing on slopes of limestone mountains at an altitude of 7,000 feet in the province of Yunnan, China.

30774. CEANOTHUS VEITCHIANUS Hook.

Apparently a hybrid between some of the species native to the region around San Francisco Bay, Cal.

30775. CORIARIA TERMINALIS Hemsl.

Distribution.—A shrub found on the frontier between the province of Szechwan, China, and Tibet, and in Sikkim in northern India, at an altitude of 9,000 to 13,000 feet.

30776. ACACIA CAESIA (L.) Willd.

Distribution.—On the lower slopes of the Himalayas in the province of Behar and in Burma in India, and in the Malay Archipelago.

30777. ACACIA CYCLOPS Cunningham.

Distribution.—In the region around King George Sound and in the valleys of the Swan and Preston rivers in West Australia.

30778. ACACIA HAKEOIDES Cunningham. **Western black wattle.**

Distribution.—Along the Lachlan and Severn Rivers in New South Wales, and in the Murray Desert in Victoria, Australia.

30779. ACACIA LEPTOCLADA Cunningham.

Distribution.—In New South Wales and on the eastern coast of Queensland in Australia.

30780. ACACIA LONGIFOLIA (Andr.) Willd.

See No. 26304 for previous introduction.

30781. ACACIA NERIIFOLIA Cunningham.

See No. 10477 for previous introduction.

Distribution.—In open forests on the Balonne River in Queensland, and in New South Wales and South Australia.

30782. ACACIA PENNINERVIS Sieb.

See No. 1827 for previous introduction.

Distribution.—Rocky slopes of the mountains in the provinces of Queensland, New South Wales, and Victoria, Australia, and in the island of Tasmania.

30783. ACACIA SPECTABILIS Cunningham. **Mudgee wattle.**

See No. 1838 for previous introduction.

Distribution.—In the river valleys of Queensland and New South Wales, Australia.

30784. CARAGANA ARBORESCENS Lam. **Siberian pea tree.**

See No. 29960 for previous introduction.

30785. CARAGANA ARBORESCENS Lam. **Siberian pea tree.**

Variety *pendula*.

30764 to 30822—Continued.

30786. COLUTEA ARBORESCENS L. **Bladder senna.**

See No. 1570 for previous introduction.

Distribution.—Southern Europe, western Asia, and northern Africa, extending from France and Germany eastward to Syria.

30787. COLUTEA ORIENTALIS Miller.

Distribution.—On stony hillsides in the Caucasus region of southeastern Russia and extending eastward through northern Persia to Turkestan.

30788. ROSA DAMASCENA Miller **Rose.**

30789. ROSA CANINA L. **Rose.**

See No. 26265 and 28236 for previous introductions.

30790. ROSA MACROPHYLLA Lindl. **Rose.**

See No. 28239 for previous introduction.

30791. SCHIZONOTUS AITCHISONI (Hemsl.) Skeels.

See No. 30758 for previous introduction.

30792. ULMARIA FILIPENDULA (L.) Hill.

Distribution.—In meadows, pastures, and open woods of Europe and Asia, extending eastward to Dzungaria and the Altai Mountains.

30793. CAJUPUTI ERICIFOLIA (Smith) Lyons. **Bottle-brush tea-tree.**

Distribution.—A tall shrub or small tree growing in swampy ground along streams or near the sea in the provinces of New South Wales and Victoria, Australia, and in Tasmania.

30794. CAJUPUTI HYPERICIFOLIA (Salisb.) Skeels.

30795. CAJUPUTI PUBESCENS (Schauer) Skeels.

(*Melaleuca pubescens* Schauer, in Walpers' Repertorium, vol. 2, 1843, p. 928.)

The reason for the use of the generic name Cajuputi for the plants usually known as Melaleuca is explained under No. 30761.

Distribution.—A tall shrub or small tree found along the banks of streams in Victoria and South and West Australia, Australia.

30796. CARUM CARVI L. **Caraway.**

See No. 26445 for previous introduction.

30797. COREOPSIS TINCTORIA Nuttall.

See No. 12975 for previous introduction.

30798. DAHLIA GRACILIS Ortegies. **Dahlia.**

See No. 28216 for previous introduction.

30799. DAHLIA MERCKII Lehm. **Dahlia.**

See Nos. 21554 and 21555 for previous introductions.

Distribution.—In the region of San Luis Potosi in northern Mexico, and on the summit of a mountain near Guadalupe in southern Mexico.

30800. SENECIO VEITCHIANUS Hemsl.

Distribution.—A yellow-flowered herbaceous perennial found in bogs and wet places at an altitude of 4,000 to 6,000 feet in the province of Hupeh, China.

30801. PRIMULA KEWENSIS Hort. **Primrose.**

A hybrid of garden origin between *Primula floribunda* and *P. verticillata.*

30764 to 30822—Continued.

30802. Fraxinus excelsior L. **Ash.**

Distribution.—Throughout central and northern Europe and in the Caucasus region of western Asia.

30803. Fraxinus excelsior L. **Ash.**

Variety *pendula.*

30804. Buddleia albiflora Hemsl.

30805. Buddleia hemsleyana Koehne.

Distribution.—In the provinces of Hupeh and Szechwan, China.

30806. Buddleia variabilis Hemsl.

Distribution.—A shrub growing on the slopes of the mountains up to 6,000 feet in the provinces of Hupeh and Szechwan, China.

30807. Veronica salicifolia Forster.

Distribution.—A shrub from 3 to 15 feet high growing from sea level to 3,500 feet elevation in the islands of New Zealand.

30808. Viscum album L. **Mistletoe.**

See No. 24666 for previous introduction.

30809. Pterocarya fraxinifolia (Lam.) Spach. **Caucasian walnut.**

Distribution.—A tree found in the woods bordering on the southern parts of the Black and Caspian seas, and in the northern part of Persia.

See No. 27768 for previous introduction.

30810. Pterocarya stenoptera DC. **Wing nut.**

See No. 6609 for previous introduction.

Distribution.—On mountain slopes in the provinces of Kiangsu, Chekiang, Kiangsi, Hupeh, Szechwan, Yunnan, and Kwangsi, China.

30811 and **30812.** Betula nana L. **Birch.**

30811. Variety *crenata.* **30812.** Variety *pendula.*

30813. Larix dahurica Turcz. **Siberian larch.**

Variety *pendula.*

30814. Larix leptolepis (Sieb. and Zucc.) Gord. **Japanese larch.**

See No. 6672 for previous introduction.

Distribution.—Slopes of the mountains in northern and central Japan extending from Hokushu (Yezo) southward to the region around Yokohama.

30815. Pinus halepensis Miller. **Pine.**

Distribution.—On dry hills in the countries bordering on the Mediterranean from Portugal to Syria and in northern Africa.

30816. Alpinia mutica Roxb.

Distribution.—An herbaceous perennial with large white flowers variegated with red and yellow, found in the Malay Peninsula and in the Malay Archipelago.

30817. Ixiolirion tataricum (Pall.) Herbert.

Distribution.—A bulbous herbaceous perennial growing from the Caucasus region eastward through southern Siberia and Turkestan to Dzungaria.

30818. Asparagus crispus Lam. **Asparagus.**

See No. 30219 for previous introduction.

30764 to 30822—Continued.

30819. ASPARAGUS SCANDENS DEFLEXUS Baker. **Asparagus.**

See No. 29120 for previous introduction.

30820. LIVISTONA HOOGENDORPII Andre. **Palm.**

See No. 9724 for previous introduction.

Distribution.—A palm from the island of Java.

30821. AGROSTIS CANINA L. **Rhode Island bent-grass.**

See No. 18413 for previous introduction.

30822. DACTYLIS GLOMERATA L. **Orchard grass.**

30823. GOSSYPIUM BARBADENSE L. **Cotton.**

From Alexandria, Egypt. Presented by Mr. D. S. Fish, secretary, Horticultural Society. Received May 16, 1911.

Sakellaridis. "This variety is of quite recent introduction and produces the best Egyptian cotton. The seed sent is said to have been saved from selected plants." (*Fish.*)

30824. MUCUNA IMBRICATA DC.

From Calcutta, India. Presented by Maj. A. T. Gage, superintendent, Royal Botanic Garden. Received May 23, 1911.

Distribution.—In the tropical region of India, rising to an elevation of 4,000 feet in the eastern Himalayas.

30825 to 30827. VITIS VINIFERA L. **Grape.**

From Tiflis, Caucasus, Russia. Presented by Mr. A. Rolloff, Botanic Garden. Received May 6, 1911.

Cuttings of the following:

30825. *Mskhali.* A dessert variety. Does well in alkaline soils. Ripens from September 1 to 15.

30826. *Bandi.* Fruitful dessert variety. May be kept until Easter.

30827. *Schafei.* This appears to be the same as the Shafai, No. 27621; see this number for description.

30828. MUSA sp. **Banana.**

From Pirapo, Paraguay. Presented by Mr. C. F. Mead. Received May 6, 1911.

"Paraguayan banana, botanical name unknown unless it is a sport from *Musa sapientium*. Grows to a height of 20 to 25 feet, very large and heavy leaves which are raveled easily by the wind, making a dirty and unpopular plant. Fruit in very large bunches up to 100 pounds in weight and classed by many travelers as the finest flavored of all bananas, which is my opinion also as compared with Hawaiian, Mexican, Central American, and Brazilian varieties." (*Mead.*)

30829 and 30830. MEDICAGO spp. **Alfalfa.**

From Russia. Received through Mr. Frank N. Meyer, agricultural explorer, May 3, 1910. Numbered May 8, 1911.

Plants of the following:

30829. From near Yelisavetpol, Caucasus, Russia.

"(No. 756, April 7, 1910.) An alfalfa growing wild along banks of ravines, in open plains, and along roads, in rather heavy, clayey soil. Much sought for by grazing cattle and horses, who grow fat on it. Called by local German

30829 and 30830—Continued.

30829—Continued.

settlers *Steinklee*. Apparently of value as a fodder plant in semiarid regions." (*Meyer.*)

30830. From near Helenendorf, Caucasus, Russia.

"(No. 757, April 5, 1910.) A perennial alfalfa growing on limey, clayey soil along banks and on ridges; makes very long roots and is apparently drought resistant. Called by local German settlers *Steinklee*. Of value like the preceding number." (*Meyer.*)

30831 and 30832. PHORMIUM spp. **New Zealand flax.**

From Greendale, Canterbury, New Zealand. Presented by Mr. T. W. Adams. Received May 6, 1911.

Seeds of the following; notes by Mr. Adams:

30831. PHORMIUM TENAX Forst.

"Seeds of several varieties that I have growing here, some of them are ornamental and all are good fiber sorts."

30832. PHORMIUM COOKIANUM Le Jolis.

"This variety is ornamental in flower and fruit, but poor as a fiber plant."

30833. ENTELEA ARBORESCENS R. Brown. **Whau.**

From Epsom, Auckland, New Zealand. Presented by Mr. W. Petrie. Received May 6 and 9, 1911.

"This plant is not a hardy one and will barely withstand even slight frosts. It is most plentiful on small coastal islands in the northern part of New Zealand, and at the upper slopes of wooded gullies above the fog line in autumn and winter. The seed grows most readily in my garden; indeed, seedlings are quite a weed." (*Petrie.*)

"This plant is greedily eaten by cattle and horses, and consequently is becoming rare fast on the mainland, except in comparatively inaccessible situations. It is still plentiful on most of the small outlying islands on the northeast coast of the Auckland district, often exhibiting great luxuriance. On Cuvier Island I measured leaves with petioles 2 feet long, with a blade 1 foot 6 inches in diameter." (*Cheeseman, Manual New Zealand Flora, p. 83, 1906.*)

"This introduction is a tree already tried in California and found to be a very rapid grower. It is made for the purpose of ascertaining the possibility of using the sawdust of the wood, which is very soft and light, as packing for grapes in place of the cork and redwood sawdust commonly used." (*S. C. Stuntz.*)

30834. ENTELEA ARBORESCENS R. Brown. **Whau.**

From Auckland, New Zealand. Presented by Mr. E. Clifton, director, Department of Agriculture, Commerce, and Tourists, Wellington, New Zealand. Received May 9, 1911.

See No. 30833 for description.

30835. ANNONA SENEGALENSIS Pers. **Annona.**

From Sacikela, Angola, West Africa. Presented by Mr. Merlin W. Ennis, Benguela, West Africa, via Lisbon. Received May 9, 1911.

"Seeds of a dwarf annona. The plant is about the size of the huckleberry and favors about the same sort of soil and location. The fruit is the size of a small apple, and some have a decidedly pleasant taste. In its wild state the plant is killed down every year by the fires, so I think it could be grown anywhere in the South where the ground does not freeze." (*Ennis.*)

See No. 25169 for previous introduction.

30836 to 30838.

From Nice, France. Presented by Dr. A. Robertson Proschowsky. Received May 1, 1911.

Quoted notes on the following by Dr. Proschowsky:

30836. SOLANUM NIGRUM L. **Nightshade.**

"This plant at Nice is in flower and fruit any time of the year."

Seeds.

30837. CITRUS sp.

"*Poire du Commandeur.* An agrume (a citrus fruit) forming a very beautiful tree, with its large pear-shaped fruits, which are of a pleasantly acid flavor and furnish a good lemonade."

Seeds.

30838. OPUNTIA sp.

"This is a fruit of great merit, most agreeable and refreshing, and if not bruised keeps in good state all through the winter."

Cuttings.

30839 to 30841. GLYCINE HISPIDA (Moench.) Maxim. **Soy bean.**

From Bengal, India. Presented by Mr. E. J. Woodhouse, Department of Agriculture. Received May 9, 1911.

Seeds of the following:

30839. Black.
30840. Yellow.
30841. Chocolate.

"These varieties of soy beans are cultivated to a very small extent on the plains of Bengal, mostly north of the Ganges. They have probably spread outward from the Himalayas, as their vernacular name, *Bhetmas,* is the same as that used by the Bhutias. They have been grown here for two years and breed true; they have been analyzed by Mr. C. S. Taylor, agricultural chemist to the government, who finds that the black-seeded variety yields an average of 38.4 per cent of proteid (N×6.3), the yellow variety 36.5, and the chocolate 32.6. They are all decumbent plants with small violet flowers and with the upright end of the branches more twining. The black-seeded variety is not so tall growing and has rather smaller bullate leaves, so that it can be easily distinguished in the field from the other two varieties. Plate II, fig. 2, of Bulletin 197, Bureau of Plant Industry, U. S. Department of Agriculture, gives a fair idea of the vegetative stage of the chocolate and yellow seeded varieties.

"The seeds are sown here in June at the break of the monsoon and are harvested in December. The plants die out very easily if water-logged early in growth and yield badly if the moisture fails at the flowering season." (*Woodhouse.*)

30842. HORDEUM VULGARE L. **Hull-less barley.**

From Cawnpore, United Provinces, India. Presented by Mr. H. Martin Leake, Land Records and Agriculture. Received May 1, 1911.

30843. SAPOTA ZAPOTILLA (Jacq.) Coville. **Sapodilla.**

From Christiansted, St. Croix, Danish West Indies. Presented by Mr. A. J. Blackwood, American consular agent. Received May 10, 1911.

"This pear-shaped variety is considered the finest flavored and best grown in the island." (*Blackwood.*)

Plants.

30844 to 30867.

From Sapporo, Japan. Presented by Prof. T. Minami, Botanic Garden, College of Agriculture, Tohoku Imperial University. Received May 9, 1911.

Seeds of the following:

30844. ACER DIABOLICUM Bl. **Maple.**

Distribution.—In the islands of Honshu (Hondo) and Kiushu in Japan.

30845. ACER UKURUNDUENSE Trautv. and Meyer. **Maple.**

Distribution.—The Amur region of Manchuria, the island of Sakhalin, and the islands of Hokushu (Yezo) and Honshu (Hondo) in Japan.

30846. BERBERIS KOREANA Palibin. **Barberry.**

Distribution.—Known only from the vicinity of Seoul, in Chosen (Korea).

30847. VIBURNUM SARGENTI Koehne.

Distribution.—A shrub resembling *Viburnum opulus* L., found in the vicinity of Peking, China, and also in Japan.

30848. CERCIDIPHYLLUM JAPONICUM Sieb. and Zucc.

Distribution.—A deciduous, bushy tree found in the woods on the mountain slopes in Japan from Hokushu (Yezo) to Kiushu.

30849. LEUCOTHOE GRAYANA Maxim.

Distribution.—An ornamental, low, half-evergreen shrub found on wooded slopes in the islands of Japan.

30850. RHODODENDRON ALBRECHTI Maxim.

Distribution.—In the wooded subalpine valleys of the volcanic mountains of Japan.

30851. VACCINIUM BUERGERI Miq.

Distribution.—In the woods on the mountain slopes of northern and central Japan.

30852. VACCINIUM CILIATUM Thunb.

Distribution.—A much-branched shrub cultivated generally in Japan; probably wild in the province of Bitchu.

30853. VACCINIUM JAPONICUM Miq.

Distribution.—In the woods on the alpine slopes of the mountains in the island of Japan.

30854. VACCINIUM VITIS-IDAEA L. **Cowberry.**

30855. AKEBIA LOBATA Decaisne.

See Nos. 24744 and 26424 for previous introductions.

30856. PICEA ABIES (L.) Karst. **Norway spruce.**

30857. CRATAEGUS JOZANA Schneider.

Distribution.—In the island of Hokushu (Yezo), in northern Japan.

30858. ERIOBOTRYA JAPONICA (Thunb.) Lindl. **Loquat.**

30859. PRUNUS INCISA KURILENSIS (Miyabe) Koidzumi.

Distribution.—A straggling shrub found on exposed hilltops in the Kuril islands.

30860. PRUNUS MAXIMOWICZII Rupr.

Distribution.—Eastern Manchuria, Sakhalin Island, and in Japan.

30861. PRUNUS PSEUDO-CERASUS Lindl. **Flowering cherry.**

30844 to 30867—Continued.

30862. Rhodotypos kerrioides Sieb. and Zucc.

30863. Rosa multiflora Thunb. **Rose.**

Variety.

30864. Phellodendron sachalinense Sargent.

"Of the three species of this genus established in the Arboretum, *Phellodendron sachalinense* is the handsomest. All the species are natives of eastern Asia and are small trees with pinnate leaves, small clusters of inconspicuous yellow flowers, the male and female flowers being produced on different individuals, and black berrylike fruits. They have bright yellow wood and roots, and all parts of these trees are permeated with a fragrant aromatic oil, which apparently makes them immune from the attacks of insects. *P. sachalinense*, which is a native of Sakhalin and the northern island of Japan, has grown in the Arboretum into a tree about 30 feet high, with a tall, straight trunk and wide-spreading branches, forming a shapely, flat-topped head. The seedlings springing up naturally near the old trees indicate that it is likely to hold its own in New England. The hardiness of this tree, its rapid growth, and the fact that it is not injured by insects suggest that this is a good subject to plant in narrow streets." (*Bulletin of Popular Information, No. 7, Arnold Arboretum, Harvard University.*)

Distribution.—An ornamental deciduous tree found in the vicinity of Seoul, Chosen (Korea), the southern part of the island of Sakhalin, and in the vicinities of Sapporo and Hakodate in the island of Hokushu (Yezo), Japan.

30865. Digitalis lutea L. **Foxglove.**

Distribution.—In gravelly places in southern Europe, extending from France and Italy eastward to Greece.

30866. Ulmus glabra Miller. **Elm.**

Variety *japonica*. "This form very much resembles the American elm in habit, foliage, and pubescence, but the flowers and fruits are like those of *U. campestris*." (*Bailey's Cyclopedia of American Horticulture.*)

Distribution.—In woods and copses on the alpine slopes of Japanese mountains.

30867. Clerodendrum trichotomum Thunb.

"A very handsome, hardy shrub. In the north it kills to the ground but sprouts up if the crown is protected." (*Bailey's Cyclopedia of American Horticulture.*)

Distribution.—In clumps of shrubbery on the margin of woods in the vicinity of Yokosuka in central Japan, and southwestward to Nagasaki on the island of Kiushu.

30868 to 30880.

From Philippine Islands. Received through Mr. C. V. Piper, Bureau of Plant Industry, May 4, 1911.

Seeds of the following; quoted notes by Mr. Piper:

30868. Agati grandiflora (L.) Desv.

(*Sesbania grandiflora* Poir.; *Robinia grandiflora* L.)

"*Gawi-gawi.* A very rapid-growing tree 15 to 20 feet high producing abundant flowers and seed. The flowers are fleshy and are eaten as salad by the natives. Used for shade and windbreaks."

30868 to 30880—Continued.

30869. Vitis barbata Wall. **Grape.**

"A native grape."

Distribution.—On the Khasi Hills ascending to an elevation of 3,000 feet, and in the provinces of Assam, Sylhet, Pegu, and Tenasserim in India.

30870. Operculina turpethum (L.) Manso.

"A morning-glory with large white flowers and much-inflated pods. Quite ornamental."

Distribution.—Throughout India and extending southeastward through the Malay Archipelago and Polynesia to Australia.

30871. Ipomoea sp. **Morning-glory.**

"A morning-glory with rather small yellow flowers."

30872. Ipomoea sp. **Morning-glory.**

"A slender native morning-glory."

30873. Meibomia lasiocarpa (Beauv.) Kuntze.

"A species 3 to 5 feet high producing abundant seed in dense clusters."

Distribution.—From the Himalayas, where it ascends to an elevation of 4,000 feet, through India, Ceylon, and the Malay Archipelago to the Philippines, and in Madagascar and tropical Africa.

30874. Meibomia gangetica (L.) Kuntze.

"A species 3 to 4 feet high, the seed not very abundant."

Distribution.—Throughout the Tropics of the Eastern Hemisphere from Africa and India eastward to China and Australia.

30875. Meibomia pulchella (L.) Kuntze.

"A half-shrubby species, 3 to 6 feet high, producing abundant seed."

Distribution.—From the eastern Himalayas in India southwestward to Ceylon, and in China and the Malay Archipelago to the Philippines.

30876. Indigofera nigrescens Kurz.

"An annual legume with pink flowers and abundant seed. Grows 1 to 4 feet high. Herbage odorous and not eaten by cattle. To be tested as a green-manure plant in Florida and Biloxi, Miss."

Distribution.—On the slopes of the Khasi Hills in India and in the southwestern part of the province of Yunnan, China.

30877. Indigofera nigrescens Kurz.

"A legume 1 to 4 feet high, quite erect. Annual, perhaps of value for green-manure crop."

Distribution.—Same as the preceding number.

30878. Moghania macrophylla (Willd.) Kuntze.

"An erect, stout legume, 3 to 7 feet high, quite leafy but with coarse stems. The pods are produced in dense clusters. Try for forage and green manure."

Distribution.—From the central Himalayas in northern India southwestward to Ceylon, and in Malakka, southern China, and the Malay Archipelago to the Philippines.

30879. Canavali turgidum Graham.

"A seashore species, climbing the trees to a height of 20 feet. Not eaten by the natives. It is closely related to *Canavali obtusifolium* (*C. lineata*).

30868 to 30880—Continued.

30880. SESBAN CANNABINUM (Retz.) Poir.

"An annual legume 3 to 9 feet high. Much like *Sesban macrocarpa.*"

Distribution.—In the Tropics of the Eastern Hemisphere from India to the Philippines.

30881. TRIFOLIUM PRATENSE L. **Red clover.**

From England. Presented by Prof. H. T. Güssow, Dominion Botanist, Central Experimental Farm, Department of Agriculture, Ottawa, Canada. Received May 13, 1911.

"*Leighton's Inherited Permanent* red clover. Leighton claims that by careful cultivation he has originated a practically permanent red clover." (*Güssow.*)

30884 and 30885.

From La Paz, Bolivia. Presented by Mr. Madden Summers, Chargé d'Affaires ad Interim, at the request of Hon. Horace G. Knowles, American Minister. Received May 12, 1911.

Seeds of the following:

30884. CITRULLUS VULGARIS Schrad. **Watermelon.**

30885. CUCUMIS MELO (L.) All. **Muskmelon.**

30886. CITRUS DECUMANA (L.) Murr. **Pomelo.**

From Yachow, China. Presented by Dr. Edgar T. Shields. Received February 23, 1911. Numbered May 15, 1911.

"Very sweet variety." (*Shields.*)

Seed.

30887 to 30889. NICOTIANA spp. **Tobacco.**

From Honduras. Presented by Dr. R. Fritzgartner, Tegucigalpa, Honduras. Received May 12, 1911.

Seeds of the following:

30887. From Piliguin, 4,000 feet altitude.

30888. From Sorognaro, 4,000 feet altitude.

30889. From Aurora, 5,000 feet altitude.

30890 and 30891.

From Diarbekr, Turkey. Presented by Mr. W. W. Masterson, American consul, Kharput, Turkey. Received May 12, 1911.

Seeds of the following:

30890. CITRULLUS VULGARIS Schrad. **Watermelon.**

"Large variety."

30891. CUCUMIS MELO L. **Muskmelon.**

"Large variety."

30892. SORBUS TORMINALIS (L.) Crantz.

From southern Russia. Presented by Mr. Theo. Kryshtofovich, Russian Government Agricultural Commissioner, St. Louis, Mo. Received May 13, 1911.

"This is a large-sized tree, the most drought resistant of the pear family, in my opinion. Its native habitat is about latitude 47° N., and longitude 37° E. It is

30892—Continued.

almost extinct. Should be tried as a stock for cultivated varieties of pears in dry localities." (*Kryshtofovich.*)

Distribution.—Throughout northern and central Europe eastward to the Caucasus region.

30893 to 30895. SOLANUM spp.

From Jamaica. Presented by Mr. William Harris, director, Public Gardens. Received May 12, 1911.

Seeds of the following:

30893. SOLANUM MAMMOSUM L.

30894. SOLANUM SEAFORTHIANUM Andrews.

30895. SOLANUM TORVUM Swartz.

30896 to 30906.

From Sukhum-Kale, Russia. Presented by Mr. R. B. Marcowitz, director, Jardin Botanique. Received May 15, 1911.

Seeds of the following:

30896. PINUS PINEA L. **Stone pine.**

Distribution.—Throughout the Mediterranean region of southern Europe, western Asia, and northern Africa.

See No. 3270 for description.

30897. CUPRESSUS FUNEBRIS Endl. **Funeral cypress.**

See No. 23024 for previous introduction.

30898. CUPRESSUS SEMPERVIRENS HORIZONTALIS (Mill.) Gord. **Cypress.**

30899. LAUROCERASUS OFFICINALIS Roem. **Cherry laurel.**

See Nos. 27360 and 27684 for previous introductions.

30900. SPARTEUM JUNCEUM L. **Spanish broom.**

See No. 27451 for previous introduction.

30901. (Undetermined.)

30902. PASSIFLORA CAERULEA L. **Passion fruit.**

Distribution.—In the provinces of Minas Geraes and Rio Grande do Sul in southern Brazil, and in Uruguay.

30903. PASSIFLORA ACERIFOLIA Hort. **Passion fruit.**

See No. 11124 for previous introduction.

30904. CORNUS AUSTRALIS C. A. Meyer.

30905. CYCLAMEN IBERICUM Steven.

Distribution.—The Trans-Caucasian region of southeastern Russia and in northwestern Persia.

30906. DIOSPYROS LOTUS L.

30907. RUBUS MACRAEI A. Gray. **Akala berry.**

From Hawaii. Presented by Dr. E. V. Wilcox, Hawaii Agricultural Experiment Station, Honolulu. Received April 17, 1911.

"The fruit attains a diameter of nearly 2 inches, is dark red, very juicy, and although slightly bitter, quite pleasant to the taste." (*Hillebrand.*)

"Would likely improve under cultivation." (*Mueller.*)

Distribution.—On the slopes of the volcanoes in the Hawaiian Islands.

30908. SONCHUS ARBOREUS (Brouss.) DC.

From Canary Islands. Presented by Dr. George V. Perez, Puerto Orotava, Teneriffe. Received May 19, 1911.

"Seed of a rare, herbaceous plant, which, like most of the Canary plants, ought to do well, I should say, in the climate of southern California, which is very much like ours. This is a very striking plant and grows over 6 feet high." (*Perez.*)

30909 and 30910.

From Moscow, Russia. Purchased from Immer & Sons. Received May 13, 1911.

Seeds of the following:

30909. HELIANTHUS ANNUUS L. **Sunflower.**

30910. TRIFOLIUM PRATENSE L. **Red clover.**

Perm.

30911. COLOCASIA sp. **Taro.**

From Cuba. Presented by Mr. Robt. M. Grey, director, Harvard Botanic Station, Belmonte, Cienfuegos, Cuba. Received May 15, 1911.

"Commonly cultivated here for culinary purposes." (*Grey.*)

"The tubers are slightly acrid; the flesh cooks white or yellowish white, but it is rather moist and of poor flavor." (*R. A. Young.*)

30912 and 30913.

From Porto Rico. Presented by Dr. John Gifford, Cocoanut Grove, Fla. Received at the Subtropical Plant Introduction Garden, Miami, Fla., May 8, 1911.

30912. MAGNOLIA SPLENDENS Urban. **"Laurel sabino."**

"A first-class timber tree, 50 to 100 feet in height. Olive heartwood, changing after exposure to brownish. Fine grained and aromatic. White, sweet-scented flowers, 2 to 3½ inches in diameter. Leaves with silvery pubescence underneath, although not always pubescent.

"Next to asubo (*Sideroxylon mastichodendron* Jacq.), this is probably the most valuable timber tree on the reserve. Used wherever it is not too scarce and expensive for construction work in the form of beams and boards. Valuable for cabinet work. Still found in patches in the more inaccessible parts of the reserve. Flowers, leaves, and fragrance similar to *Magnolia glauca* of the southern United States. With its light-colored trunk, silvery foliage, and fragrant, showy flowers this tree is worthy of cultivation for ornamental purposes. It is probably called 'laurel' because its leaves are used as a condiment, as is the famous laurel (*Laurus nobilis* L.) of southern Europe, and 'sabino' because of the cedary aroma of its wood." (*Gifford, J. C. The Luquillo Forest Reserve, Porto Rico. Bulletin 54, Bureau of Forestry, U. S. Department of Agriculture, 1905, p. 35.*)

Plants.

30913. THESPESIA GRANDIFLORA DC. (?) **"Maga."**

"Rare in the Luquillo region. A thick-foliaged, very beautiful ornamental shade tree with large, pendant, reddish flowers. Yields a first-class, fine, hard, olive-brown timber. Its height varies from 30 to 60 feet." (*Gifford, J. C. The Luquillo Forest Reserve, Porto Rico. Bulletin 54, Bureau of Forestry, U. S. Dept. of Agriculture, p. 36.*)

Cuttings.

30914 to 30920. CERATONIA SILIQUA L. **Carob.**

From Valencia, Spain. Received through Mr. Robert Frazer, jr., American consul, May 10, 1911.

Cuttings of the following, quoted notes by Mr. Frazer:

30914. *Matalafera.* "This is the variety now most extensively cultivated in this region and is very generally used in grafting nursery seedlings and in forming new plantations. The tree is of medium size, with smooth and straight branches, the ramifications of which are thrown out almost at right angles. The leaves are comparatively large and of a very dark-green color, and the fruit, of a deep chestnut shade bordering on black, is large and wide and attains 8 inches in length, but although of excellent appearance, is not considered as good as the red varieties, being lighter in weight and possessing less pulp. The crop of this variety, however, is the most constant and abundant of all carobs known to Valencia agriculturists."

30915. *Casuda.* "This is the most appreciated of all carobs raised in this district. The tree attains gigantic proportions, with knotty, tortuous, and abundant branches and dense foliage, the leaves being of equal size, the smaller predominating. The fruit is long, wide, and thick, of a reddish chestnut color with yellowish tints on both sides and abundant white pulp which renders it appetizing for farm cattle. The great drawback of this variety is uncertainty of crop, which frequently fails altogether or yields an insignificant harvest."

30916. Red-flowered male. "This is a much smaller and more delicate tree than the yellow flowered, very susceptible to cold, but produces a great show of flowers, which, however, frequently fall prematurely before fecundation is possible."

30917. Yellow-flowered male. "This is a vigorous tree of rapid growth which when ingrafted upon a female tree requires frequent pruning to prevent its dominating and overpowering the female branches."

30918. *Roya vera.* "This is a large tree with gnarled branches, of very irregular formation and mostly growing at acute angles; leaves light green, abundant and small. The fruit is light red in color, of medium size, 4 to 6 inches long, and produced all over the tree, trunk and branches, without clustering, seldom more than two or three pods being found united, and the pulp is white and sweet. This tree is a steady, constant, and abundant crop producer and is for this reason preferred by farmers to the other red variety (No. 30915), although the fruit is not quite so fine."

30919. "The hermaphrodite carob with bisexual flowers is something similar in appearance to the *Matalafera*, but its branches are longer, straighter, and smoother, and the smaller ramifications form acute angles with the parent branches instead of the right angles that characterize the *Matalafera*. The fruit, of a light-red color, is long and wide, growing in large clusters, but is of very inferior quality, being woody, fibrous, and tough and adheres so firmly to the trees that it can only be removed by blows with poles or cutting instruments carried by harvesters. The advantages of this tree are that it does not require grafting to fecundate its flowers and that its abundant fruit can not be swept off by high winds before maturity, as so frequently happens to other varieties. The fruit, however, is so rough and unpalatable that horses and mules accustomed to other carobs reject the hermaphrodites altogether and refuse to eat them. For this reason they are usually exported to Great Britain, France, and Italy, and are generally steeped in sea water

30914 to 30920—Continued.

30919—Continued.

before or during the voyage, a process which, by partly decomposing the woody fiber of the pods and imparting a salt flavor, is said to render them more palatable and digestible."

30920. The name of this variety was indistinct on the label, but is apparently *Roya vera*.

30921 to 30955.

From Chinese Turkestan. Received through Mr. Frank N. Meyer, agricultural explorer, May 11, 1911.

Cuttings of the following:

30921. POPULUS PRUINOSA Schrenk. **Desert poplar.**

From near Kara Kulja, Chinese Turkestan. "(No. 932, February 14, 1911.) A species of desert poplar, called *Thal Tograk*, occurring in big groves in sandy and alkali deserts mostly intermixed with *Populus euphratica*, to which it bears great resemblance in general habits. The leaves are nearly always kidney shaped, although round-oblong ones are often seen. The young twigs and leaves, however, are always tomentose. The wood is used in the same way as that of *P. euphratica*, except that as this species in general does not grow so large one can not manufacture troughs or barrels from it; it is said, however, that this wood is harder and more lasting. This poplar will be able to stand more intense heat and drought, but slightly less cold than *P. euphratica*. (*Meyer.*)

30922. POPULUS BALSAMIFERA LAURIFOLIA (Ledeb.) Wesm. **Poplar.**

From Yengi-Malah, Tien Shan Range, Chinese Turkestan. Altitude 7,950 feet. "(No. 933, March 5, 1911.) A species of wild poplar, called *Tagh terek*, growing into a small or medium-sized tree. Occurs on stony, sterile, and desolate places, mostly in the vicinity of mountain streams. Leaves somewhat leathery and varying considerably on different specimens. Bark glossy, grayish white, making a grove of these trees a very cheerful object in an otherwise dull winter landscape. Recommended as an ornamental park tree, also as a fuel supplier in cold and bleak regions. Suited especially to cool mountain climates." (*Meyer.*)

30923. SALIX sp. **Willow.**

From Yengi-Malah, Tien Shan Range, Chinese Turkestan. Altitude 7,950 feet. "(No. 934, March 5, 1911.) A willow called *Thal;* occurs along mountain streams in stony and rocky situations. Mostly seen as a tall shrub, but also grows into a small tree. Bark of young twigs yellow in color. The branches have a slight drooping habit. Apparently very resistant to cold, drought, and adverse conditions. Of value as a small garden and park tree in the cooler sections of the United States." (*Meyer.*)

30924. SALIX sp. **Willow.**

From Kailik, Tien Shan Range, Chinese Turkestan. Altitude 8,400 feet. "(No. 935, March 6, 1911.) A willow occurring on sandy and stony places. Grows into a tall shrub or small tree. Bark of old branches white, of young twigs red or yellowish red. Of value like the preceding number." (*Meyer.*)

30925. SALIX sp. **Willow.**

From near Kailik, Tien Shan Range, Chinese Turkestan. Altitude 8,200 feet. "(No. 937, March 6, 1911.) A small, shrubby willow, found on sandy flats. This willow has very long slender branches, which are remarkably

30921 to 30955—Continued.

30925—Continued.

pliable and furnish an excellent tying material. To be experimented with as a source of supply of garden-tying material and as a possible basketry willow in the cooler regions of the United States." (*Meyer.*)

30926. SALIX sp. **Willow.**

From near Kayirlik, Tien Shan Range, Chinese Turkestan. Altitude over 10,000 feet. "(No. 938, March 9, 1911.) A willow occurring on dry and stony places, grows into a good-sized, spreading bush of well-rounded shape. Suitable for use as a lining shrub along winding roads and also on flat expanses along watercourses. Will do especially well in cool mountain regions." (*Meyer.*)

30927. SALIX sp. **Willow.**

From the valley of the Chong Djighilan, Tien Shan Range, Chinese Turkestan. Altitude 3,700 feet. "(No. 939, March 18, 1911.) This willow grows into a small-sized tree with a broad, round head, and looks as if it had been trimmed. The branches are of a pale greenish yellow color. Quite ornamental. Found on moist, peaty soil. Of value as a small park and garden tree in the northern sections of the United States." (*Meyer.*)

30928. SALIX sp. **Willow.**

From near Kayirlik, Tien Shan Range, Chinese Turkestan. Altitude over 10,000 feet. "(No. 941, March 9, 1911.) A willow occurring in stony débris at high altitudes. On exposed cold places it reaches only the size of a shrub, but on sheltered localities it grows into a small tree. Bark of young branches yellow in color. Of value like the preceding number." (*Meyer.*)

30929. SALIX sp. **Willow.**

From near Kayirlik, Tien Shan Range, Chinese Turkestan. Altitude over 10,000 feet. "(No. 942, March 9, 1911.) Small bushy willow, with silvery, tomentose leaves, found in rocky situations. Of value for rockery work and as a border shrub in cold, bleak regions." (*Meyer.*)

30930. TAMARIX sp. **Tamarisk.**

From near Lango, Chinese Turkestan. "(No. 943, February 13, 1911.) A tamarisk found in immense quantities on sandy and alkaline places in the desert, it is called *Kara yulrun*, and is mostly seen as a shrub 4 to 6 feet tall, but in favorable situations grows into a small tree 10 to 15 feet high. The fallen leaves and twigs intermix with the moving sand and dust, enabling this plant to build mounds often of considerable height. The old trunks in this way are buried, but new branches shoot up all the time and increase the area occupied by such mounds. The wood is an excellent fuel of great heating qualities and is extensively used. Reckless cutting and the grubbing out of roots have denuded large areas of desert lands, which formerly were covered with these tamarisk bushes and which often become moving wastes again. This tamarisk will probably be found of great value in the alkaline and desert regions of the United States as a cover plant of waste areas, as a sand binder, and as a fuel supplier. If possible, the ground water should not be too far from the surface, otherwise the plants will make very little growth." (*Meyer.*)

30931. TAMARIX sp. **Tamarisk.**

From near Tumchuk, Chinese Turkestan. "(No. 944, February 18, 1911.) A tamarisk of very spreading growth, making long, slender branches of rose-red color. Of value like the preceding number, also as an ornamental shrub in desert regions." (*Meyer.*)

30921 to 30955—Continued.

30932. TAMARIX sp. **Tamarisk.**

From near Schul-Kuduk, Chinese Turkestan. "(No. 945, February 22, 1911.) A small-growing tamarisk, found in a sandy, alkali desert. Branches slender and of a pale-red color, growing 3 to 5 feet in length; these twigs are used by the native population for making strong brooms and baskets. The plants stand yearly cutting off to the ground. Of value as a broom and basketry material in the arid and semiarid regions of the United States." (*Meyer.*)

30933. TAMARIX sp. **Tamarisk.**

From near Yamatu, Tien Shan Range, Chinese Turkestan. "(No. 946, March 21, 1911.) A tamarisk found on dry alkaline places at an altitude of 2,400 feet, growing into a shrub 4 to 6 feet high. Twigs of an attractive orange-brown color. Of value as an ornamental shrub in cold and dry regions." (*Meyer.*)

30934. SPIRAEA sp.

From Kara-Tugai, Tekes Valley, Tien Shan Range, Chinese Turkestan. Altitude, 3,900 feet. "(No. 947, March 16, 1911.) A shrubby spirea, occurring on dry plains in rather heavy soils. Grows from 3 to 5 feet tall, and bears apparently white flowers. Of value possibly as a garden and park shrub in the northern sections of the United States." (*Meyer.*)

30935. SPIRAEA sp.

From near Schutte, Tien Shan Range, Chinese Turkestan. Altitude over 7,000 feet. "(No. 948, March 10, 1911.) A spirea found on rocky mountain sides. Has tomentose branches, and grows from 3 to 5 feet in height. Possibly of value like the preceding number." (*Meyer.*)

30936. LONICERA sp. **Honeysuckle.**

From the valley of the Chong Djighilan, Tien Shan Range, Chinese Turkestan. Altitude of 3,700 feet. "(No. 952, March 18, 1911.) A shrubby honeysuckle, found in copses on peaty and on rocky soil. Grows 4 to 6 feet in height. The young branches are of a pale-yellow or white color and are attractive looking in winter. Of value like the preceding numbers." (*Meyer.*)

30937. LONICERA sp. **Honeysuckle.**

From near Yengi-Malah, Tien Shan Range, Chinese Turkestan. Altitude of 8,000 feet. "(No. 953, March 5, 1911.) A shrubby honeysuckle, of tall, fastigiate growth. A mutation, the only one seen among thousands of normally growing bushes. Of value as a shrub of rigid outlines along pathways, also as a background for flowering plants in cemeteries and formal gardens. To be tested with special care." (*Meyer.*)

30938. CARAGANA sp.

From Kurgan, Tien Shan Range, Chinese Turkestan. Altitude of 7,700 feet. "(No. 955, March 5, 1911.) A small, spiny Caragana, found on dry, stony, and sterile places. Grows from 3 to 6 feet in height, and has peculiar small adpressed side branches. A botanical curiosity. Of use as a small ornamental shrub in very dry places." (*Meyer.*)

30939. REAUMURIA sp.

From near Kailik, Tien Shan Range, Chinese Turkestan. Altitude of 8,200 feet. "(No. 958, March 6, 1911.) A tall-growing shrub, adapted to sandy and rocky situations. Of slight sand-binding qualities and for this reason possibly of value for the purpose of fixing moving sandy wastes in the northern sections of the United States and as an ornamental shrub for sterile situations." (*Meyer.*)

30921 to 30955—Continued.

30940. ELAEAGNUS ANGUSTIFOLIA L. **Oleaster.**

From near Yamatu, Tien Shan Range, Chinese Turkestan. Altitude of 2,500 feet. "(No. 959, March 21, 1911.) A variety of wild oleaster having a beautiful shining, chocolate-brown bark. Found on a sandy waste along the Tekes River. Grows into a tall shrub or a small tree. Of decided ornamental value for parks and gardens in the cooler sections of the United States." (*Meyer.*)

30941. ULMUS sp. **Elm.**

From Aksu, Chinese Turkestan. "(No. 962, February 25, 1911.) A cultivated variety of elm called *Seda*, forming a very dense, well-rounded head. Grows to great age and becomes through its dense black mass of branches a feature of the landscape in Turkestan. Recommended as a peculiar formal shade tree for cemeteries, also as an ornamental tree of stiff outlines in front of buildings of classical designs. A variety sent under No. 30364, which may prove to be the same as this." (*Meyer.*)

30942. FRAXINUS sp. **Ash.**

From near Yamatu, Tien Shan Range, Chinese Turkestan. Altitude of 2,500 feet. "(No. 963, March 21, 1911.) An ash growing into a tall shrub or a medium-sized tree; occurs on saline, moist places. Of value possibly as an ornamental tree in the alkaline northern sections of the United States." (*Meyer.*)

30943. RIBES sp. **Currant.**

From near Idin-Kul, Tien Shan Range, Chinese Turkestan. Altitude of 8,200 feet. "(No. 964, March 10, 1911.) A wild currant, found on rocky mountain slopes in the shade of spruce trees. Of value possibly for hybridization work." (*Meyer.*)

30944. RIBES sp. **Currant.**

From near Idin-Kul, Tien Shan Range, Chinese Turkestan. Altitude of 8,200 feet. "(No. 965, March 10, 1911.) A wild currant, found on rocky mountain slopes in the shade of spruce trees. Of very tall growth, 6 to 10 feet. Young shoots covered with prickles. Possibly of value like the preceding number; also as a hardy ornamental park shrub." (*Meyer.*)

30945. RIBES sp. **Gooseberry.**

From the valley of the Chong Djighilan, Tien Shan Range, Chinese Turkestan. Altitude of 3,700 feet. "(No. 966, March 19, 1911.) A rare species of wild gooseberry, found on shady places amidst various scrub. Young branches rather spiny. Of value possibly like preceding number." (*Meyer.*)

30946. MALUS sp. **Apple.**

From Kurgan, Tien Shan Range, Chinese Turkestan. Altitude of 7,700 feet. "(No. 968, March 5, 1911.) A wild apple, which grows into a small-sized tree. Young branches very dark red in color. This form apparently stands great drought and severe cold and may be of value in hybridization work to create hardier strains of apples suitable for the coldest sections of the United States. May also be tried as a dwarfing stock in cold sections." (*Meyer.*)

30947. MALUS sp. **Apple.**

From near Kitchik Djighilan, Tien Shan Range, Chinese Turkestan. Altitude of 4,100 feet. "(No. 969, March 17, 1911.) A wild apple of somewhat bushy growth, found on the northern slopes of otherwise barren mountains. Bears small round fruits of red color and subacid taste, having long peduncles. Calyx persistent. Leaves somewhat tomentose and smaller than those of

30921 to 30955—Continued.

30947—Continued.

cultivated varieties. Twigs long and strong. The bark of the main trunk and of the older branches peels off in patches and gives the tree a hardy-looking appearance. At the time of my visit (March 17) the trees were still standing in 2 feet of hard-frozen snow, and this fact, together with the decided semiarid character of the locality, the short, hot, and dry summers, and the long, cold winters, should make this species of apple a valuable one as a hybridization factor in the creation of hardier types of apples adapted to the upper Mississippi Valley region and the localities west of it." (*Meyer.*)

30948. MALUS sp. **Apple.**

From near Kitchik Djighilan, Tien Shan Range, Chinese Turkestan. Altitude of 4,100 feet. "(No. 970, March 17, 1911.) A variety of wild apple. The tree attains a height of 25 feet, has slender branches, but a good-sized trunk. Its fruits are apparently small. Seems to be much hardier than our cultivated apples. Otherwise the same remarks apply to it as to the preceding." (*Meyer.*)

30949. MALUS sp. **Apple.**

From the valley of the Chong Djighilan, Tien Shan Range, Chinese Turkestan. Altitude of 3,700 feet. "(No. 971, March 18, 1911.) The valley of the Chong Djighilan River and its small tributaries is one vast wild apple and apricot garden, and these wild trees vary in all possible ways. The quality and size of the fruits of the wild apples exhibit great variations, ranging from small, sour, hard fruits up to medium-sized apples of a very fair taste. The local people collect the best varieties in autumn, slice them, and keep them dried for winter use; while bears and wild hogs come down from the higher mountains especially to enjoy both the apples and the apricots in late summer and autumn. These wild apples are apparently much slower growers than those we have now in cultivation, but they make up for it in all-around hardiness, and one may expect to obtain from them strains able to stand much greater cold than most of the varieties that have been developed from the apples coming originally from moist and mild western Europe." (*Meyer.*)

30950. MALUS SYLVESTRIS Miller. **Apple.**

From Aksu, Chinese Turkestan. "(No. 973, February 25, 1911.) A variety of cultivated apple called *Kabak alma.* It is said that the trees have a drooping, spreading habit and bear abundantly only every other year, also that the fruit is of oblong shape, white color, and ripens in summer. Of possible value in those sections of the United States where the summers are hot and dry, but the winters moderately cold, and where ordinary apples do not succeed." (*Meyer.*)

30951. MALUS SYLVESTRIS Miller. **Apple.**

From Aksu, Chinese Turkestan. "(No. 974, February 25, 1911.) A variety of cultivated apple called *Kizlik alma.* Said to be a very good winter apple. Shape oblong, of medium size, red on one side and greenish white on the other. Ripens in November. Of good keeping qualities and a prolific bearer. To be tested like the preceding number." (*Meyer.*)

30952. PRUNUS ARMENIACA L. **Apricot.**

From near Kitchik Djighilan, Tien Shan Range, Chinese Turkestan. Altitude of 4,100 feet. "(No. 976, March 17, 1911.) A variety of wild apricot, found between clumps of wild apples on the north side of a barren mountain, the trees standing in 2 feet of hard-frozen snow at the time of my visit. Of possible value in the creation of a race of late-blooming, hardy apricots for the northern sections of the United States." (*Meyer.*)

30921 to 30955—Continued.

30953. Asparagus sp. **Asparagus.**

From Tchoa, Tekes Valley, Tien Shan Range, Chinese Turkestan. Altitude of 4,300 feet. "(No. 978, March 15, 1911.) A wild asparagus of climbing habits, growing from 8 to 15 feet in length. Found between Berberis bushes. The young sprouts are eaten as a spring vegetable. Of possible value as an ornamental plant in northern regions, and as cut greens for decorative work." (*Meyer.*)

30954. Medicago sp. **Alfalfa.**

From near Tuwan, Tien Shan Range, Chinese Turkestan. "(No. 979, March 14, 1911.) A wild alfalfa of erect growth, bearing yellow flowers and short flat pods. Found on clayey and peaty hill slopes at altitudes between 6,000 and 7,000 feet. Stands great cold in winter and drought in summer and is eagerly eaten by horses, cattle, and sheep. Of value, probably, as a forage plant in sections of the United States where the ordinary alfalfa is winterkilled. Native name *Yaū beda*, in Turki, and *Serlik beda*, in Kalmuck." (*Meyer.*)

30955. Medicago falcata L.

From the valley of the Chong Djighilan, Tien Shan Range, Chinese Turkestan. Altitude of 3,700 feet. "(No. 980, March 18, 1911.) A wild alfalfa of semierect growth having yellow flowers and short, slightly curved pods; occurring on abandoned wheat fields and along the edge of cultivated lands; seems to like lime in the soil. Is considered by the local population superior in fodder value to the cultivated alfalfa. The hay of *Medicago falcata* tastes aromatically sweet, while that of *M. sativa* has a slightly saline flavor. Of value possibly as a fodder plant in elevated regions. Native names *Tagh beda*, in Turki, and *San Musu*, in Dzungan, both meaning wild or mountain lucern." (*Meyer.*)

30956 to 30962.

From Port Louis, Mauritius. Presented by Mr. Gabriel Regnard. Received May 12 and 15, 1911.

Seeds of the following:

30956. Combretum coccineum (Sonnerat) Lam.

Distribution.—A climbing shrub, found in Madagascar and the island of Mauritius.

30957. Mimusops elengi L.

Distribution.—A tree attaining a height of 50 feet, common in the Dekkan, India, and the Malay Peninsula; generally cultivated in the Tropics.

30958. Pithecolobium saman (Jacq.) Benth. **Saman.**

See No. 2724 for description.

Distribution.—Nicaragua and the northern part of South America.

30959. Pongam pinnata (L.) W. F. Wight.

See No. 27570 for previous introduction.

30960. Toluifera sp.

30961. Nauclea orientalis L.

"A very large tree from Australia." (*Regnard.*)

Distribution.—A tree found in the Malay Peninsula and eastward through the Malay Archipelago and Polynesia to northern Australia.

30956 to 30962—Continued.

30962. SEMECARPUS ANACARDIUM L. f. **Marking nut.**

Distribution.—A moderate-sized deciduous tree found growing in woods from the tropical slopes of the Himalayas in Sikkim throughout the hotter parts of India and extending through the eastern islands of the Malay Archipelago to northern Australia.

30963 to 30967.

From Lamao, Philippine Islands. Received through Mr. C. V. Piper, Bureau of Plant Industry, May 17, 1911.

Seeds of the following; quoted notes by Mr. Piper:

30963. VIGNA PILOSA (Klein) Baker.

"A very vigorous annual (?) legume growing about as large as the Lyon bean, but producing very few pods."

30964. PUERARIA PHASEOLOIDES (Roxb.) Benth.

"A common vine in forest thickets. To be tried in Mississippi and Florida."

30965 and 30966. SYNTHERISMA CILIARIS (Retz.) Schrad.

"A common species here. These two may be identical and the same as a form already in the United States. To be tried at Biloxi, Miss., and Arlington Farm, Va."

Distribution.—A form of *Syntherisma sanguinalis* (L.) Dulac found in the Tropics of the Eastern Hemisphere.

30967. CANAVALI sp.

"Native. Mr. Merrill considers it the wild form of *Canavali ensiforme*, a determination which I doubt. Note the pubescence on the pods. Common in thickets."

30968. CERATONIA SILIQUA L. **Carob.**

From Algeria. Presented by Dr. L. Trabut, Mustapha Alger, Algeria. Received May 18, 1911.

Hermaphrodite. See No. 30919 for description of similar variety.

30969. POPULUS TREMULA L. **Aspen.**

From St. Petersburg, Russia. Presented by Mr. W. W. Rockhill, American ambassador. Received May 19, 1911.

See No. 29098 for description.

30970. GARCINIA DULCIS (Roxb.) Kurz.

From Singapore, Straits Settlements. Presented by Dr. H. N. Ridley, director, Botanic Gardens. Received May 19, 1911.

Introduced for testing as a stock for the mangosteen, which has a notably poor root system.

Distribution.—A medium-sized tree found in the islands of the Malay Archipelago.

30971 and 30972. MANGIFERA INDICA L. **Mango.**

From San Jose, Costa Rica. Presented by Mr. C. Wercklé, Museo Nacional. Received May 15, 1911.

Cuttings of the following:

30971. *Rosa.* **30972.** *Scarlet.*

30973. VITIS VINIFERA L. **Grape.**

From Tiflis, Caucasus, Russia. Presented by Mr. A. Rolloff, Botanical Garden. Received May 19, 1911.

"*Schaani.*"

30974. LUPINUS sp. **Blue lupine.**

From the eastern slope of Chiriqui Volcano, Panama, about 9,970 feet altitude. Collected by Mr. Wm. R. Maxon, assistant curator, Division of Plants, Smithsonian Institution. Received May 23, 1911.

"I do not know that this species is of any particular value." (*Maxon.*)

30975 to 31093.

From St. Petersburg, Russia. Presented by the director, Imperial Botanic Garden. Received May 20, 1911.

Seeds of the following:

30975. AMYGDALUS BUCHARICA Korsh.

Distribution.—On the slopes of the mountains in the province of Bokhara in southern Turkestan.

30976. ASPARAGUS OFFICINALIS L. **Asparagus.**

30977. BETA PATELLARIS Moq.

Distribution.—A biennial plant growing in the sand on the shores of the Canary Islands.

30978. BETA VULGARIS L. **Beet.**

30979. BETULA sp. **Birch.**

30980. COTONEASTER TOMENTOSA (Ait.) Lindl.

See No. 28213 for previous introduction.

30981. CRATAEGUS CRENULATA Roxb. **Hawthorn.**

See No. 28845 for previous introduction.

30982. PHOTINIA GLABRA (Thunb.) Maxim.

Distribution.—A shrub found in the vicinity of Yokohama in Japan, and near Ningpo in the province of Chekiang, and Amoy in Fukien, China.

30983. EUONYMUS NANUS Bieb.

A handsome shrub for rockeries and rocky slopes.

Distribution.—Southern Asia, extending from the Caucasus region eastward through Turkestan and Mongolia to the provinces of Kansu and Shensi in China.

30984. IRIS HALOPHILA Pallas. **Iris.**

30985. IRIS SPURIA NOTHA (Bieb.) Baker. **Iris.**

Distribution.—From the Caucasus region eastward to Kashmir in India.

30986. KNAUTIA ARVENSIS (L.) Coulter.

Distribution.—Throughout Europe, especially in the northern and central parts, and eastward to the Ural Mountains in Siberia.

30987. LALLEMANTIA IBERICA (Bieb.) Fisch. and Meyer.

See No. 29932 for previous introduction.

30988. LONICERA CAERULEA L. **Honeysuckle.**

Distribution.—A much-branched shrub found in Europe and Asia, extending southward to the Alps and the Pyrenees, and eastward to Japan.

30975 to 31093—Continued.

30989. LONICERA HISPIDA Pallas. **Honeysuckle.**

Distribution.—An erect shrub found in central Asia on the slopes of the Himalayas and the Altai Mountains at an elevation of 9,000 to 15,000 feet.

30990. LONICERA MORROWI A. Gray. **Honeysuckle.**

Distribution.—On the slopes of the mountains in the island of Hokushu (Yezo), Japan.

30991. MERTENSIA SIBIRICA (L.) Don.

Distribution.—Northeastern Siberia, extending from the valley of the Lena River eastward to Kamchatka.

30992. MEDICAGO HISPIDA ACULEATA Urban.

Distribution.—Southern France and Spain, and in northern Africa.

30993. CIRCINNUS CIRCINATUS NUMMULARIUS (DC.) Skeels.

(*Medicago nummularia* DC., Catalogus Plantarum Horti Botanici Monspeliensis, 1813, p. 124.)

This Egyptian leguminous plant was first given a specific name, *Medicago nummularia*, by De Candolle, who, in describing it, cited Gaertner's figure of *Medicago circinata* (De Fructibus et Seminibus Plantarum, 1791, vol. 2, p. 348, pl. 155) and Willdenow's *M. circinata β.* (Species Plantarum, 1801, vol. 3, p. 1404.) *Medicago circinata* L. has a reniform pod with a dentate margin. In *M. nummularia* Willd., the margin of the pod is entire. These plants are generally known as *Hymenocarpos circinatus* and *H. nummularius*. The generic name Hymenocarpos was published by Savi in 1798 (Flora Pisana, vol. 2, p. 205), with one species, *H. circinata*, based on *Medicago circinata* L. However, in 1787 Medicus had already published the generic name Circinnus (Vorlesungen der Kurpfaelzischen Physikalisch-Oekonomischen Gesellschaft, vol. 2, p. 384), also based on *Medicago circinata* L. While this book is not obtainable, the publication is verified by the Index Kewensis, and Medicus again published the name in 1789 in Philosophische Botanik, vol. 1, p. 208, where he referred to the former publication and again cited *Medicago circinata* L. Not considering our form to be distinct enough to be given specific rank, it is here placed under *Circinnus circinatus* as a subspecies.

Circinnus circinatus nummularius was first found in cultivated fields in Egypt and is also known to grow in the southern part of Persia.

30994. MEDICAGO RIGIDULA (L.) Desr.

30995. MEDICAGO HISPIDA CONFINIS (Koch) Burnat.

30996. MEDICAGO HISPIDA RETICULATA (Benth.) Urban.

Distribution.—Southern France, Spain, and Portugal in southwestern Europe, and in northern Africa.

30997. MEDICAGO SCUTELLATA (L.) Miller.

30998. MEDICAGO HISPIDA APICULATA (Willd.) Urban.

Distribution.—The western part of Europe, extending from the British Isles southward through France to Spain and Italy, and in northern Africa.

30999. MEDICAGO LACINIATA (L.) Miller.

Distribution.—The countries bordering on the Mediterranean from Spain and southern France eastward through Italy and Asia Minor to Persia, and in northern Africa and the Canary Islands.

31000. MEDICAGO SATIVA L. **Alfalfa.**

30975 to 31093—Continued.

31001. MEDICAGO RIGIDULA CINERASCENS (Jord.) R. and F.

Distribution.—The countries bordering on the Mediterranean from Spain to Syria, and in northern Africa.

31002. MEDICAGO HISPIDA APICULATA (Willd.) Urban.

31003. MEDICAGO HISPIDA TEREBELLUM (Willd.) Urban.

31004. MEDICAGO MINIMA (L.) Grufb.

31005. MEDICAGO FALCATA L.

31006. MEDICAGO MUREX SORRENTINI (Tin.) Urban.

Distribution.—In the island of Sicily and in Italy.

31007. MEDICAGO SOLEIROLII Duby.

Distribution.—In the island of Corsica and in northern Africa.

31008. TRIGONELLA ARCUATA Meyer.

Distribution.—In dry places in Armenia and in northern Persia.

31009. MEDICAGO PROSTRATA Jacq.

Distribution.—Southern Europe, extending from Italy and Sicily eastward through the Balkan Peninsula to the southwestern part of Russia.

31010. MEDICAGO HISPIDA Gaertn.

31011. MEDICAGO HISPIDA RETICULATA (Benth.) Urban.

31012. MEDICAGO HISPIDA TEREBELLUM (Willd.) Urban.

31013 and 31014. MEDICAGO LUPULINA L.

31015. MEDICAGO HISPIDA APICULATA (Willd.) Urban.

31016. MEDICAGO OBSCURA HELIX (Willd.) Urban.

Distribution.—The countries at the western end of the Mediterranean, extending from Spain and Italy through the islands and northern Africa.

31017. MEDICAGO HISPIDA Gaertn.

31018. MEDICAGO HISPIDA ACULEATA Urban.

31019. MEDICAGO CILIARIS (L.) All.

31020. TRIGONELLA OVALIS Boiss.

31021. MEDICAGO ECHINUS DC.

Distribution.—In fields and cultivated places in the provinces of France bordering on the Mediterranean.

31022. MEDICAGO HISPIDA CONFINIS (Koch.) Burnat.

31023. MEDICAGO HISPIDA TEREBELLUM (Willd.) Urban.

31024. MEDICAGO HISPIDA ACULEATA Urban.

31025. MECONOPSIS SIMPLICIFOLIA (Don) Hook. f. and Thomson.

Introduced with others of the genus for trial in the hope of finding a thoroughly hardy blue poppy and also for possible use in breeding work with the hardier poppies already in cultivation.

Distribution.—A perennial herb with large blue-purple flowers, found on the subalpine slopes of the Himalayas at an elevation of 12,000 to 14,000 feet, in Nepal and Sikkim in northern India.

31026. PRIMULA DENTICULATA Smith. **Primrose.**

A hardy plant usually treated as a rockwork subject. Blooms in earliest spring.

30975 to 31093—Continued.

31026—Continued.

Distribution.—In damp places on slopes of the Himalayas at an altitude of 7,000 to 13,000 feet, from Bhutan to Kashmir, and at an altitude of 5,000 feet in the Khasi Hills, India; also in Afghanistan.

31027. HYPERICUM PATULUM Thunb.

See No. 1710 for previous introduction.

Distribution.—Southeastern Asia, extending from the Himalayan region of northern India eastward through China to central and southern Japan.

31028 to 31032. MALUS BACCATA (L.) Moench.

31028. Variety *microcarpa.*

31029. Variety *costata.*

31030. Variety *edulis.*

31031. Variety *aurantiaca.*

31032.

31033. SORBUS ARIA (L.) Crantz.

Variety *latifolia.*

31034. ROSA FERRUGINEA Villars. **Rose.**

See No. 30263 for previous introduction.

31035. RHEUM PALMATUM TANGUTICUM Maxim. **Rhubarb.**

See No. 21761 for previous introduction.

31036. RHEUM SPICIFORME Royle. **Rhubarb.**

Distribution.—On the dry slopes of the Himalayas, at an altitude of 9,000 to 16,000 feet, from Afghanistan to Tibet.

31037. RHEUM AUSTRALE Don. **Rhubarb.**

See No. 21763 for previous introduction.

31038. RHEUM PALMATUM L. **Rhubarb.**

Variety *corallinum.*

31039. RHEUM PALMATUM L. **Rhubarb.**

Red-flowered variety.

31040. RHEUM RHAPONTICUM L. **Rhubarb.**

See No. 21758 and 21760 for previous introduction.

31041. RHEUM FRANZENBACHII Muenter.

Distribution.—In the mountain valleys of the province of Shensi, China.

31042. RHEUM MOORCROFTIANUM Royle. **Rhubarb.**

See No. 21766 for previous introduction.

31043. TRIFOLIUM SCABRUM L. **Clover.**

31044. TRIFOLIUM CHERLERI Jusl. **Clover.**

Distribution.—The countries bordering on the Mediterranean from Spain to Syria, and in northern Africa.

31045. TRIFOLIUM PANNONICUM Jacq. **Hungarian clover.**

31046. TRIFOLIUM MEDIUM Huds. **Zigzag clover.**

31047. TRIFOLIUM SPUMOSUM L. **Clover.**

31048 and **31049.** TRIFOLIUM AGRARIUM L. **Golden clover.**

31050. TRIFOLIUM CERNUUM Brot. **Clover.**

Distribution.—In the vicinity of Cintra in Portugal, and Spain.

30975 to 31093—Continued.

31051. TRIFOLIUM STRIATUM L. **Clover.**

Distribution.—Western and southern Europe, extending from Norway and Sweden southward to Spain and eastward to Asia Minor and the Caucasus region, and in northern Africa.

31052. TRIFOLIUM INCARNATUM L. **Crimson clover.**

31053. TRIFOLIUM RECLINATUM Waldst. and Kit.

Distribution.—In grassy places in Hungary, Servia, and Macedonia.

31054. TRIFOLIUM TUMENS Stev. **Clover.**

Distribution.—In grassy fields on the slopes of the mountains in the Trans-Caucasian region of Russia and in northern Persia.

31055. TRIFOLIUM ALEXANDRINUM L. **Berseem.**

31056. TRIFOLIUM PRATENSE L. **Red clover.**

31057. TRIFOLIUM LAPPACEUM L. **Clover.**

31058. TRIGONELLA FOENUM-GRAECUM L. **Fenugreek.**

31059. TRIGONELLA PROCUMBENS (Bess.) Reichenb.

Distribution.—Southeastern Europe, extending from the Balkans eastward through southern Russia and the Caucasus region to Asia Minor.

31060. TRIGONELLA CORNICULATA L.

31061. TRIGONELLA CRETICA Boiss.

31062. TRIGONELLA POLYCERATA L.

31063. TRIGONELLA POLYCERATA L.

Variety *dentata*.

31064. TRIGONELLA CAERULEA (L.) Ser.

Variety *connata*.

31065. TRIGONELLA CALLICERAS Fisch.

31066. TRIGONELLA GLADIATA Stev.

31067. TRIGONELLA SPINOSA L.

Distribution.—In grassy places in the island of Crete, and along the shores of the southern part of Asia Minor and Syria and Palestine.

31068. TRIGONELLEA CAERULEA (L.) Ser.

31069. MEDICAGO RADIATA L.

31070. TILIA RUBRA BEGONIFOLIA (Stev.) Schneider.

Distribution.—In the Crimean Peninsula and the Caucasus region of southeastern Russia, Armenia, and northern Persia.

31071. AGROPYRON SIBIRICUM (Willd.) Beauv.

31072. TROLLIUS LEDEBOURII Reichenb.

Distribution.—A hardy, herbaceous perennial found on the margins of woods or in damp open fields near streams throughout Manchuria.

31073. VICIA SATIVA L. **Spring vetch.**

31074. VICIA VILLOSA Roth. **Hairy vetch.**

31075. VICIA SATIVA LEUCOSPERMA (Moench) Ser.

31076. VICIA PSEUDOCRACCA Bertol.

31077. VICIA CORNIGERA Chaub.

Distribution.—A form apparently closely related to *Vicia sativa*, found in the vicinity of Agen, France.

30975 to 31093—Continued.

31078. VICIA HIRSUTA (L.) S. F. Gray.

31079. VICIA MELANOPS Sibth. and Smith.

Distribution.—The central and southern part of Italy, the islands of Sicily, and eastward to Greece.

31080. VICIA PICTA Fisch. and Meyer.

Distribution.—In copses from Dalmatia eastward through southern Russia to Siberia.

31081. VICIA SATIVA L. **Spring vetch.**

31082. VICIA SATIVA OBOVATA Ser.

31083. VICIA ANGUSTIFOLIA Grufberg.

31084. VICIA SATIVA LEUCOSPERMA (Moench) Ser.

31085. VICIA SYLVATICA L.

Distribution.—Western and southern Europe, extending from Norway, Sweden, and the British Isles southward to southern France, Italy, Corsica, and Sardinia, and eastward through Servia and Roumania to southern Russia.

31086 to **31088.** VICIA spp.

31089. VICIA ONOBRYCHIOIDES L.

Distribution.—Southern France, Spain, and eastward through Italy to Greece; also in northern Africa.

31090. VICIA ANGUSTIFOLIA Grufberg.

31091. VICIA DISPERMA DC.

31092. VICIA MICHAUXII Spreng.

Distribution.—Along cultivated fields in Mesopotamia, Syria, and southern Persia.

31093. VICIA DUMETORUM L.

Distribution.—Western and southern Europe, extending from Norway and Sweden southward to Spain and eastward through Italy, Bulgaria, and Greece to southern Russia and southwestern Siberia.

31094. CASTANEA CRENATA Sieb. and Zucc. **Chestnut.**

From Japan. Presented by the Agricultural College, Tohoku Imperial University, Sapporo, Japan. Received May 25, 1911.

This is probably the *Aomori* variety, which is one of the hardier Japanese varieties, introduced for the work of a breeder who is trying to produce disease-resistant strains of chestnut.

31095 and 31096.

From Baguio, province of Benguet, Philippine Islands. Received through Mr. C. V. Piper, Bureau of Plant Industry, May 25, 1911.

Seeds of the following; quoted notes by Mr. Piper:

31095. ROSA MULTIFLORA Thunb. **Rose.**

"An evergreen (?) species with stems 3 to 10 feet high. Flowers white, small, in cymes of 10 to 15. Suggests the Cherokee rose on a small scale."

31096. RUBUS FRAXINIFOLIUS Poir.

"Shrub 5 to 10 feet high, quite erect, stems not very prickly, red; leaves evergreen, shiny, pinnate, with 7 leaflets; fruit scarlet, as large as a big raspberry, with very numerous small drupelets; not much flavor."

31095 and 31096—Continued.

31096—Continued.

Distribution.—Apparently one of several forms closely related to *Rubus rosaefolius* Smith, and found from India eastward through the Malay Archipelago to Australia.

31097. JUBAEA CHILENSIS (Mol.) Baill. **Palm.**

From Chile. Received through Mr. José D. Husbands, Limavida, via Molina, Chile, May 26, 1911.

"The tree is called *Palma de Chile;* the fruit *Coquitos;* Indian names *Lilla* and *Caucau.* This is the tall, slim sort with a trunk about 18 or 20 inches in diameter. Practically all these trees are found at the hacienda 'Palmas de Ocoa,' where there are said to be over 2,500, forming woods upon the dry, level land; in other parts of Chile they are very scarce, only individual trees are found rarely and at great distances apart. They do not grow in the south, I presume on account of the moisture. They grow in the driest parts. In the hacienda 'Palmas de Ocoa,' they manufacture palm sirup upon a large scale. It is very good and healthful and is in general use among well-to-do families. It is too high to be used by the poor, as a small can 2¾ inches in diameter by 4½ inches high costs 50 cents gold. This is also served alone as a dessert dish.

"I fear these magnificent trees, tropical plants that withstand hard frosts and the greatest droughts, will become extinct in the near future, for they are tapped, generally with an ax, each year; no proper attention is paid to conservation." (*Husbands.*)

31098. ERYTHRINA LITHOSPERMA Blume.

From Mandalay, Burma. Presented by Mr. J. Mackenna, Director of Agriculture. Received May 19, 1911.

"This is known in Burmese as *Ye-ka-thit.*" (*Mackenna.*)

Procured for the Porto Rico Agricultural Experiment Station for experimental growing as a shade in young coffee and cacao plantations.

Distribution.—In the vicinity of Rangoon in southern Burma and in Java and the Philippine Islands.

31099. ORYZA SATIVA L. **Rice.**

From Soochow, China. Presented by Mr. N. Gist Gee, Department of Natural Science, Soochow University. Received May 27, 1911.

"This is a peculiar variety of rice which the Chinese grow near here that is not grown elsewhere, they say. This rice when cooked shows a very decidedly reddish color, and for this reason it is called *Shuih no me* in our dialect; this translated means blood glutinous rice. The general belief among them is that it is a rapid strength giver, and they all make an effort to get some of it when they have been sick or run down physically for some time. I am not ready to vouch for any of their beliefs about it except its peculiar color. I have eaten it and find its color when cooked quite unusual." (*Gee.*)

31101. LUPINUS sp.

From Paraguay. Presented by Dr. Moises S. Bertoni, Puerto Bertoni, Paraguay. Received May 26, 1911.

"This is a wild species that grows in the most sterile soils, even in the loose sand of the river shore." (*Bertoni.*)

31102. LALLEMANTIA IBERICA (Bieb.) Fisch. and Mey.

From Erfurt, Germany. Purchased from Haage & Schmidt. Received May 26, 1911.

See No. 29932 for description.

31103. CHRYSANTHEMUM COCCINEUM Willd.

From Ungarisch-Altenburg (Magyar-Ovar), Hungary. Presented by Mr. J. Gyárfás, chief, Hungarian Plant-Culture Experiment Station. Received May 29, 1911.

Distribution.—Alpine and subalpine slopes of the mountains in the Caucasus region of southeastern Russia, Armenia, and northern Persia.

Introduced for the work of the Office of Drug-Plant, Poisonous-Plant, and Physiological Investigations in growing in the United States the various species of this genus which produce the pyrethrum insect powder.

31104. PHOENIX DACTYLIFERA L. **Date.**

From Tangier, Morocco. Presented by Mr. W. B. Harris. Received through Mr. Maxwell Blake, American consul general, June 1, 1911.

Tafilelt. See No. 18630 for description.

Seeds.

31105 to 31108.

From Nanking, China. Presented by Mr. F. B. Whitmore. Received May 29, 1911.

Seeds of the following:

31105 and 31106. HORDEUM VULGARE var. **Barley.**

31105. **31106.** Hull-less.

"The Chinese say one of their sages, about 600 B. C., found barley growing wild in what is now Chinese Turkestan, brought it to his people, and advised its use. The northern variety makes better flour, whiter, the Chinese say, because it blossoms at night, so men can live on it continually, while they can not live only on that grown in the South; it is too strong, because it blossoms in daytime." (*Whitmore.*)

31107. TRITICUM AESTIVUM L. **Wheat.**

31108. FAGOPYRUM VULGARE Hill. **Buckwheat.**

31109 and 31110. CARICA PAPAYA L. **Papaya.**

From Port of Spain, Trinidad. Presented by Mr. H. Caracciolo, St. Joseph's Nursery. Received May 22, 1911.

Seeds of the following:

31109. "The specimen from which these seeds were taken was oval, 9 by 6½ inches, and weighed 5½ pounds. The flesh was about 1 inch thick. The fruit arrived in very poor condition, which made it impracticable to say positively as to its quality; however, even under these conditions it possibly could be classed as very good." (*P. H. Dorsett.*)

31110. "The fruit from which these seeds were taken was 10 inches long by 5 inches in diameter at the large end and 3 inches at the small end. On account of the poor condition in which it arrived the quality could not be definitely determined, but it could probably be called very good." (*P. H. Dorsett.*)

31111. CARISSA OVATA R. Brown.

From New South Wales. Presented by Mr. Walter Froggatt, who procured them from Mr. R. T. Baker, curator, Technological Museum. Received May 27, 1911.

This native Australian species, the fruit of which is edible and largely used for jam, is introduced for use as a stock for the tenderer species of the genus in the hope of spreading the culture of this important home-garden fruit.

Distribution.—In the provinces of Queensland and New South Wales in Australia.

31112. HORDEUM VULGARE var. **Hull-less barley.**

From Sydney, New South Wales, Australia. Presented by Mr. Geo. Valder, chief inspector, through Mr. H. C. L. Anderson, undersecretary, Department of Agriculture. Received June 1, 1911.

31114. GOSSYPIUM sp. **Kidney cotton.**

From San Pedro Macati, near Manila, Philippine Islands. Presented by Dr. E. D. Merrill, Bureau of Science. Received May 26, 1911.

"This is a shrub 2 to 2½ meters (6½ to 8 ft.) high, commonly cultivated in the Philippines, but scarcely commercially; usually known as *bulac castila*, meaning Spanish cotton." (*Merrill.*)

31115. PHYTELEPHAS SEEMANNI O. F. Cook n. sp.
Panama ivory palm.

"As already recognized by Spruce as far back as 1869, the name *Phytelephas macrocarpa* does not belong to the vegetable-ivory palm described by Seemann from Panama (Botany of the *Herald*, 1852–1857, pls. 45–47, p. 205). Two species, *macrocarpa* and *microcarpa*, both from the eastern slopes of the Andes of Peru, were named by Ruiz and Pavon in connection with the original description of the genus Phytelephas, but without distinctive characters other than the size of the fruits. Seemann did not know the Peruvian species, but was aware that the Panama palm was different from another Phytelephas found by Purdie in the upper valley of the Magdalena River in Colombia, supposed by Karsten to represent *Phytelephas microcarpa*. Spruce's account of the true *macrocarpa* of Peru leaves no doubt that the Panama species is entirely distinct. It has the trunk decumbent and creeping instead of upright, the leaves with fewer, larger pinnae, the spathes two instead of three or four, the male flowers with 36 stamens instead of 150 to 280. The fruits also are larger and contain more numerous nuts, but with fewer fruits in a head." (*O. F. Cook.*)

From Panama Canal Zone. Presented by Mr. Pablo Pinel, Panama. Received June 1, 1911.

31116 to 31192. ORYZA SATIVA L. **Rice.**

From Philippine Islands. Presented by Mr. Sam H. Sherard, agricultural inspector, Bureau of Agriculture, Manila. Received April 18, 1911.

Seeds of the following; quoted notes and names by Mr. Sherard:

"A complete list of all rice (palay) collected in January, Iloilo. This rice is classified in the following manner: *Bohol*, white and colored; hard when cooked. *Bisia*, white; soft when cooked. *Pilit*, colored; sticky when cooked. These kinds are further classified as *Munahan*, harvested in July and August; *Dagunan*, harvested in September, October, and November; *Ma-ean*, harvested in December and January."

31116 to 31192—Continued.

31116 to 31157. *Bisia.*

31116 to 31130. *Munahan.*

31116. *Biray.*
31117. *Benihod.*
31118. *Bugna.*
31119. *Cahon-bon.*
31120. *Cabu-ong.*
31121. *Cadimayan.*
31122. *Calotac.*
31123. *Caporcas.*
31124. *Casicad.*
31125. *Magsana-ya.*
31126. *Ontramis.*
31127. *Quinopong.*
31128. *Rimocon.*
31129. *Tinabono.*
31130. *Tinoramis.*

31131 to 31153. *Dagunan.*

31131. *Cabilistos.*
31132. *Cabuad.*
31133. *Cadacag.*
31134. *Calaya.*
31135. *Calipayan.*
31136. *Capurcos.*
31137. *Caracag.*
31138. *Catoc-toc.*
31139. *Caton-og.*
31140. *Catorsa.*
31141. *Catunda.*
31142. *Ceredonce.*
31143. *Dinalosan.*
31144. *Manumbalay.*
31145. *Quinaluay.*
31146. *Tayabas.*
31147. *Ylognon.*
31148. *Maguenos.*
31149. *Caouay.*
31150. *Tabucanan.*
31151. *Pinili.*
31152. *Lonag.*
31153. *Diamante.*

31154 to 31157. *Ma-can.*

31154. *Calubug.*
31155. *Saigon.*
31156. *Siniñora.*
31157. *Bulacnaga.*

31158 to 31166. *Bilit.*

31158 and 31159. *Munahan.*

31158. *Munahan.*
31159. *Minantica.*

31160 to 31163. *Dagunan.*

31160. *Dayoyo.*
31161. *Morado.*
31162. *Soladang.*
31163. *Quinarne.*

31164 to 31166. *Ma-can.*

31164. *Jumiad.*
31165. *Moranquit.*
31166. *Quinarabao.*

31167 to 31186. *Bohol.*

31167 to 31169. *Munahan.*

31167. *Cutchiam.*
31168. *Guinatus.*
31169. *Marong-paroc.*

31170 to 31178. *Dagunan.*

31170. *Barao.*
31171. *Caleso.*
31172. *Capungod.*
31173. *Caputol.*
31174. *Delinquente.*
31175. *Pinili.*
31176. *Quinadios.*
31177. *Tumanan.*
31178. *Camarines.*

31116 to 31192—Continued.

31167 to 31186—Continued.

31179 to 31186. *Ma-can.*

31179. *Arabuon.*
31180. *Cabonlog.*
31181. *Quilala.*
31182. *Morado.*
31183. *Tapul.*
31184. *Carnate.*
31185. *Pinili.*
31186. *Calana.*

31187 to 31190. Raised in Munoz, Nueva Ecija, by Mr. Percy Hill.

31187. *Malakit*, or sticky palay. Planted July 5, transplanted September 2, harvested December 22, 1910.

31188. *Palay lloco.* Planted June 12, transplanted July 28, harvested December 18, 1910.

31189. *Paaga-Binuncloc*, or early palay. Planted broadcast June 20, harvested October 25, 1910. Yielded 48.3 bushels per acre.

31190. *Minalit.* Planted June 30, transplanted August 19, harvested January 2. Average yield 73.2 bushels per acre. A good eating rice.

31191. *Dampites.* From province of La Union.

31192. *Ilocano.* From province of Nueva Ecija.

31193. CASTILLA sp. **Central American rubber.**

From Mexico. Presented by Mr. J. C. Harvey, Plantación La Buena Ventura, Sanborn, Vera Cruz, Mexico. Received June 5, 1911.

Introduced for the work of the Bureau in encouraging rubber culture in Porto Rico, the Canal Zone, and Hawaii.

31194. SPHENOSTYLIS STENOCARPA (Hochst.) Harms.

From Amani, German East Africa. Presented by Dr. A. Zimmerman, director, Biological Agricultural Institute. Received June 5, 1911.

"This is a legume which forms edible tubers, and which is cultivated by the natives in the region of Tabora. The taste of the tubers is similar to potatoes." (*Zimmerman.*)

Distribution.—From the valley of the Kongo southward to Angola on the west coast of Africa and on the east coast from Abyssinia southward to Mozambique.

31195. LINUM sp. **Wild linseed.**

From Szechwan, China. Presented by Mr. A. Sugden, Custom House, Hankow. Received June 5, 1911.

"This seed is sown in June in sandy soil and untended, the Chinese saying it refuses to be cultivated." (*Sugden.*)

31197. ENTELEA ARBORESCENS R. Br. **Whau.**

From Wellington, New Zealand. Presented by Mr. T. W. Kirk, Director of Orchards, Gardens, and Apiaries, Department of Agriculture, Commerce, and Tourists. Received June 5, 1911.

See No. 11746 for previous introduction.

31198 to 31202. ULLUCUS TUBEROSUS Caldas. **Melloca.**

From the province of Jauja, department of Junin, Peru. Presented by Mr. James Arthur Furlong, Perene Colony, Peru. Received June 5, 1911.

Tubers of the following:

31198. Orange.
31199. Orange red.

31198 to 31202—Continued.

31200. Yellow.

31201. Mottled red.

31202. Cream colored, spotted with red.

"These tubers grew at an elevation of about 12,000 feet, in poor and stony soil, worked with wooden plows. The Ullucus are sown in drills like potatoes, after which they are molded and worked with hoes." (*Furlong.*)

"The melloca is half a runner; its shoots, without support, send out roots wherever the ground is touched. Its leaves are thick and fleshy; from being large and spreading, they become erect and round like a shell in the fully developed plant. The flowers, which are small and greenish, spring in spikes from the axil of the leaves. The produce of the melloca consists in its tubers, which in their native country attain a considerable size. They are yellow, very smooth, full of starch, and appear on runners proceeding from the base of the stem and tending to rise to the surface of the soil; the plant must, therefore, be pretty well earthed up." (*Vilmorin, Jour. Hort. Soc. of London, vol. 5, 1850, p. 65.*)

"I have found this in all the Andean valleys between the River Apurimac and Potosi, i. e., between 13° and 19° 30′ south latitude, and at an elevation of from 11,000 to 13,000 feet above the level of the sea. It is extensively cultivated in the vicinity of the populous Bolivian city of La Paz in common with the two varieties of *Oxalis tuberosa* (*Oca augris* and *Oca esaños*). It (the *Oca quina*) is planted between the 25th of July and the 10th of August, the seed employed being generally the smaller tubers unfit for food, and is gathered in during the last week of April. It will be recollected that these two periods of the year are the spring and autumn in the Southern Hemisphere. The mode of cultivation is in drills, into which the root is dropped with a little manure. I need scarcely state that at the great elevation of La Paz (upward of 12,000 feet) the climate even during the summer season is severe, scarcely a night passing over without the streams being frozen over, the sky being in general cloudless at all periods of the year except during the rainy season (December to March). Mean temperature 49°. The *Oca quina* (or melloca) is chiefly used in the preparation of Chuño, by alternately freezing the tubers and steeping, by which they are changed into an amylaceous substance, the form under which not only the Ocas but the common potato are chiefly employed by the Indian population; an operation probably introduced from the difficulty of boiling the unprepared tuber at an elevation above the sea where the point of ebullition of water is scarcely high enough to cook raw vegetables, 192° to 195° of Fahrenheit's scale." (*Pentland, J. B. Gardeners' Chronicle, No. 53, 1848, p. 862.*)

"In addition to these statements I think it right to say that there is little probability of this plant becoming useful as a garden esculent. Its produce will probably be found large when it is cultivated in the manner which the experience already gained shows to be necessary to it, namely, when planted in the beginning of March, the little tubers being used for sets, earthed up in July, and harvested in November. The leaves and tubers are no doubt nutritive but so full of an insipid and somewhat earthy slime that whether as spinach or as boiled tubers it will never be received at the table of persons of taste." (*Lindley, Jour. Hort. Soc. of London, vol. 5, 1850, p. 69.*)

31203. CLAUCENA LANSIUM (Lour.) Skeels. **Wampee.**

From Edinburgh, Scotland. Presented by the Regius Keeper, Royal Botanic Garden. Received June 1, 1911.

See Nos. 25546 and 27954 for previous introductions.

31204. CARYOCAR VILLOSUM (Aubl.) Persoon. **Piquiá.**

From Para, Brazil. Presented by Mr. Walter Fischer, acting director, Campo de Cultura Experimental Paraense. Received May 26, 1911.

"The piquiá is one of the forest trees of this vicinity that is highly prized for its lumber. The wood is extremely hard and strong, so strong in fact that the word piquiá is almost symbolic for strength; it is white and close grained. I have seen but one tree that stood in the open; in fruit with nearly all of its leaves shed it resembled one of our black walnuts in the fall of the year. The fruit is boiled before eating. After peeling off the thick rind, there remains a fatty layer of one-half inch thickness inclosing a rather spiny seed as large as a walnut in the hull. It is this fatty layer which is eaten boiled, but the kernel of the seed is eaten raw." (*Fischer.*)

Distribution.—A large tree in the forests of the northern part of South America, extending from Guiana southward to the valley of the Amazon in Brazil.

31206. MUSA sp. **Banana.**

From Paraguay. Presented by Mr. C. F. Mead, Villa Encarnacion. Received June 6, 1911.

"This sucker came from an especially fine banana plant, one from which I cut a bunch weighing 52 kilos (114.64 lbs.). The bunch of bananas cost me 24 cents gold. This fruit was pronounced by four Argentinians as the finest flavored banana they had ever eaten." (*Mead.*)

31207. PASSIFLORA sp. **Passion fruit.**

From Montevideo, Uruguay. Presented by Mr. Frederick W. Goding, American consul. Received June 6, 1911.

"This fruit, indigenous to Uruguay, is called the *Viricuya*. It is a long, climbing, perennial vine, which is found only in forests along the margins of streams. The fruit, which is ripe here about the first of April, is similar in size and shape to a lemon. The skin is of a lovely orange yellow, smooth and shining. The interior is filled with a most luscious siruplike juice with a flavor peculiar to itself but most satisfactory to the taste. It contains a large number of seeds, resembling those found in the passion fruit.

"No seeds are on sale in the seed stores at present, and as the vine grows wild in unfrequented parts of the republic considerable difficulty will be experienced in obtaining a supply." (*Goding.*)

31208 and 31209. TRITICUM spp. **Wheat.**

From Khartum, Egypt. Presented by Mr. R. Hewison, Assistant Director of Agriculture, Sudan Government. Received June 7, 1911.

Seeds of the following; quoted notes by Mr. Hewison:

31208. *Dongola.* "This wheat is the sort grown by the native cultivators in the Dongola Province, but I am unable to discover its origin."

31209. *Indian.* "This was received from Egpyt, where it had been grown. The crop from which this sample was taken is the third grown in the Sudan from the imported seed."

"These two wheats are from the crop that is now being harvested and have been grown on a commercial scale. They have both been grown under irrigation, were sown in November and harvested in March, actual period of growth being about four months. The seed is broadcast on land that has been watered about eight days previously and

plowed in with the Egyptian plow. Five to six waterings are given subsequently and our average yield for some 50 acres will this year amount to about 22 bushels per acre.

31210 to 31223.

From Lahore, India. Presented by Mr. W. R. Mustoe, superintendent, Government Agri-Horticultural Gardens. Received June 6, 1911.

Seeds of the following:

31210 to **31214.** Procured from fruits purchased on the open market at the request of Mr. F. Booth Tucker, Salvation Army, Simla, India.

31210. CITRUS LIMONUM Risso. **Lemon.**

31211 and 31212. CITRUS LIMETTA Risso. **Lime.**

31211. *Kaghzi.* **31212.** Sour.

31213. CITRUS DECUMANA (L.) Murr. **Pomelo.**

Chakatra.

31214. CITRUS AURANTIUM SINENSIS L. **Orange.**

Nagpore.

31215 to **31223.** Collected from fruit grown in the gardens.

31215. CITRUS LIMONUM Risso. **Lemon.**

Malta.

31216 and 31217. CITRUS LIMETTA Risso. **Lime.**

31216. *Khatta*, sour. **31217.** Large sweet.

31218 to 31220. CITRUS AURANTIUM SINENSIS L. **Orange.**

31218. *Sangtara.* **31220.** *Sylhet.*

31219. *Kaula.*

31221 and 31222. CITRUS DECUMANA (L.) Murr. **Pomelo.**

31221. **31222.** Large fruited.

31223. CITRUS sp.

Malta seed.

31224. DIOSPYROS LOTUS L.

From Lahore, India. Presented by Mr. W. R. Mustoe, superintendent, Government Agri-Horticultural Gardens. Received June 6, 1911.

Vernacular name *Lotos amlok.*

31225. CASTILLA sp. **Central American rubber.**

From Vera Cruz, Mexico. Presented by Mr. William W. Canada, American consul. Received June 8, 1911.

Introduced for the work of the Bureau of Plant Industry in encouraging rubber culture in Porto Rico, the Canal Zone, and Hawaii.

31226. CRYPTOCARYA sp.

From Chile. Received through Mr. José D. Husbands, Limavida, Chile, June 9, 1911.

"This fruit is edible and sweet with no ill flavor. The ones I send were dried in the sun to make them harder, as taken ripe from the tree they baffle description; the skin slides at touch revealing a viscous, slimy, ropy-mucous, soapy-mucilaginous jelly, elastic, stringy, and has ways of its own unexampled. It soon dries and shows other qualities. This material may be valuable. It reminds one of rubber, when dried." (*Husbands.*)

31227. CHRYSANTHEMUM MARSCHALLII Aschers.

From Odessa, Russia. Procured from Mr. B. F. Shtamma; presented by Mr. John H. Grout, American consul. Received July 9, 1911.

"A perennial herb belonging to the Compositæ family, closely related to the plant furnishing the Persian insect powder (*Chrysanthemum roseum* W. and M.). The flowers and unopened flower buds, when dried and finely powdered, are used to kill insects, the powder of this species being known also as Persian insect powder. The flowers in some forms are double and give value to the plant as an ornamental. This species occurs with *Chrysanthemum roseum* in the high mountains of the Caucasus, Armenia, and northern Persia, where it occupies sunny areas." (*R. H. True.*)

31228. DRACAENA CINNABARI Balf. f. **Dragon's-blood tree.**

From island of Socotra, Africa. Procured by Mr. Charles K. Moser, American consul, Aden, Arabia. Received May 24, 1911.

"I saw three varieties of this tree growing close together and was much interested in their ruby exudations, of which the natives now make but little use. They call the tree *a'ará-eeib* (as near as I can get it phonetically) and the exudation *mu-soilo*. This tree, I believe, would grow well in the San Bernardino Mountains, of which the Haghier Hills much remind me." (*Moser.*)

"I found the average height of this tree to vary from 18 to 20 feet, and its circumference from 3 to 5. When young they usually have but one stem and no branches, the leaves being disposed in the form of a star round the upper part, but as they get older they may be seen with three, four, and even five stems. From the extremity of each branch a cluster of leaves rises perpendicularly, which are disposed in a circular form radiating from the center. The branches are thickly interwoven in the most fantastic and tortuous shapes, but the foliage, assuming a more regular and better-defined outline, rises in a semicircular shape over the summit. Their appearance at a distance is therefore that of an inverted cone supported by a thin cylinder. The bark of the tree is of a lead color; the wood is soft and spongy, having thin longitudinal fibers extending along it; the roots spread very much, partially intersecting each other near the surface. Few of them extend to any depth, and they may frequently be observed seeking sufficient nourishment from the soil lodged in the cavities in the rocks. The Arabs consider the tree to be of different sexes. The male, they say, produces no gum, which exudes so spontaneously from the female trees that it does not appear necessary on any occasion to make incisions. Soon after the setting in of the southwest monsoon is considered to be the period most favorable for collecting it." (*Wellsted, Travels in Arabia, vol. 2, 1838, pp. 448–451.*)

31229 to 31231.

From Peru. Presented by Mr. J. A. Furlong, Perene, Peru. Received June 9, 1911.

Tubers of the following:

31229. IPOMOEA BATATAS (L.) Poir. **Sweet potato.**

"Grown by the savages in the Perene district." (*Furlong.*)

31230 and 31231. SOLANUM spp. **Potato.**

31230. "Tubers uniform in size, small to medium. Shape uniform, mostly round to oblate, flattened. Surface smooth to knobby. Distal end obtuse to truncate. Stem small to large, central. Proximal end obtuse to truncate. Bud-eye cluster small to large, little too much depressed, central. Cavity rather large, narrow to broad, deep, irregular. Skin thick, tough, not easily bruised, glossy to dull, purple to violet mottled with coppery yellow, variable. Eyes few to many, mostly grouped at distal end, small to large, deep, compound, regular, com-

31229 to 31231—Continued.

31230 and 31231—Continued.

31230—Continued.

pressed, purple. Eyebrows prominent to inconspicuous, short to long, curved. Flesh fine, firm, juicy to dry, white to yellow."

31231. "Tubers uniform and medium in size. Shape uniform, elongated, regular. Surface smooth. Distal end round. Bud-eye cluster small to large, a little depressed, central. Proximal end round. Stem small, deciduous, central. Cavity, none. Skin thick, tough, not easily bruised, dull, purple with coppery cast, uniform. Eyes many, single, large, deep, compound, regular, compressed, purple. Eyebrows prominent to inconspicuous, short to long, straight to curved. Flesh fine, firm, juicy to dry, white to yellow." (*William Stuart.*)

"These potatoes are grown in a place called Huasahuasi, which is 10,000 feet above sea level, by Hill Indians. They are called *Papas de Mesa*, and are much esteemed by the natives. For sowing them the ground is broken by the primitive wooden plow. After it is crossed and drilled for the reception of the seed potatoes they are sown by hand, and after they appear above ground are cultivated by hand hoes of a very primitive pattern, having a wooden handle about 18 inches long. A fine tool to break the backs of any people but Hill Indians." (*Furlong.*)

31236 to 31240.

From Peru. Presented by Mr. J. A. Furlong, Perene. Received June 5, 1911. Seeds of the following; quoted notes by Mr. Furlong:

31236. TRITICUM AESTIVUM L. **Wheat.**

"From the province of Jauja, department of Junin, grown at an elevation of about 12,000 feet in very poor, stony soil, worked with the primitive wooden plows to a depth of about 4 inches. Is usually sown in drills."

31237. PHASEOLUS VULGARIS L. **Bean.**

"*Frijoles blancos* (white Lima beans). Grow well in almost any kind of soil when sown in the spring of the year. These are grown in the Perene, elevation 2,100 feet."

31238. PROSOPIS JULIFLORA (Swartz) DC. **Algaroba.**

"*Algaroba*, from Tumbes, department of Piura, Peru. This variety grows wild all over the department and forms the principal food of goats, horses, and horned cattle. The tree is being fast killed out by charcoal burners. This seed is part of a lot of 50 pounds brought to the Perene for experimental planting in a dry, sandy soil. The nursery has been made in horse manure, in which the seedlings are coming up fine."

31239. LYCOPERSICON sp. **Tomato.**

"A wild variety found growing in the Perene. Soil very sandy; temperature 80° Fahrenheit in the shade. Elevation 2,100 feet above sea level. The seed was without doubt at one time imported and has now deteriorated. The tomatoes are used exclusively for food purposes. They are about the size of large marbles and are very palatable."

31240. CHENOPODIUM QUINOA Willd. **Quinoa.**

"Grown at 12,000 feet elevation in the province of Jauja; is a food much esteemed by the Cholo Indians; is sown in drills and very lightly covered with earth. It is ready to harvest in about six months, which is done the same as rice and replaces that grain in everything."

31241 to 31268.

From La Mortola, Ventimiglia, Italy. Presented by Prof. Alwin Berger. Received April 5, 1911.

Seeds of the following:

31241. Asparagus acutifolius L. **Asparagus.**

31242. Asparagus cooperi Baker. **Asparagus.**

31243. Asparagus crispus Lam. **Asparagus.**

31244. Berberis japonica bealei (Fortune) Skeels. **Barberry.**

(*Berberis bealei* Fortune, Gardeners' Chronicle, 1850, p. 212.)

This round-leaved form of the Japanese barberry, discovered by Dr. Fortune in a garden in the province of Kiangsu, near Shanghai, China, seems never to have been united with *Berberis japonica*, where it so evidently belongs.

31245. Berberis globosa Benth.

Distribution.—The slopes of the Andes in the vicinity of Bogota, Colombia.

31246. Berberis guimpeli Koch and Bouche.

31247. Buddleia brasiliensis Jacq.

31248. Buddleia globosa Hope.

31249. Buddleia madagascariensis Lam.

Distribution.—Along streams in the Mascarene Islands and in Madagascar; introduced into India, Africa, and South America.

31250. Toona ciliata Roem.

31251. Ceratonia siliqua L. **Carob.**

31252 and 31253. Citrus aurantium sinensis L. **Orange.**

31254. Citrus decumana L. **Pomelo.**

31255. Ilex cornuta Lindl. and Paxton.

See Nos. 22979 and 24638 for previous introductions.

31256. Lygeum sparteum Loefll. **Esparto grass.**

See Nos. 3334 and 21504 for previous introductions.

Distribution.—Southern Europe and northern Africa, extending from Spain and central Italy to Corsica, Sardinia, and Sicily, and through northern Africa from Morocco to Egypt.

31257. Moraea sp.

31258. Moraea iridioides L.

31259. Pistacia lentiscus L. **Mastic tree.**

31260. Psidium araça Raddi. **Araça.**

31261. Quercus suber L. **Cork oak.**

31262. Rosa damascena Miller. **Rose.**

31263. Sabal glabra (Mill.) Sargent.

31264. Sabal blackburnia Glazebrook.

Distribution.—Frequent in the islands of Cuba and Haiti, and the Caribbean group.

31265. Solanum melongena L. **Eggplant.**

Variety *fructo globosa*.

31266. Verbascum olympicum Boiss.

Distribution.—The vilayet of Kastamuni in the northwestern part of Asia Minor.

31267 and 31268. Vitis sp.

31269 to 31271. MECONOPSIS spp.

From Liverpool, England. Presented by Bees Ltd. Received June 9, 1911. Seeds of the following:

31269. MECONOPSIS INTEGRIFOLIA (Maxim.) Franch.

"This striking plant was first discovered by the celebrated Russian traveler, Przewalski, in 1872–73, in the extreme northwest of the province of Kansu, and he subsequently collected it in several different localities in the same region. Potanin also collected it in Kansu, in 1885. In 1887 it was collected by Delavay in the Snowy Range of Likiang, Yunnan, at an altitude of 13,000 feet; and in 1890 Mr. A. E. Pratt obtained very fine specimens in the neighborhood of Tachienlu. Its first appearance in European gardens seems to have been due to the Abbé Farges, who sent seed to Mr. Maurice L. de Vilmorin in 1895, with whom it flowered in 1897, but it produced no seed and was consequently lost to cultivation.

"In 1903 Messrs. James Veitch & Sons sent Mr. E. H. Wilson on a second journey to China, one of the principal objects being to collect seeds of *Meconopsis integrifolia*. He 'found it in millions' in the mountains west of Tachienlu at elevations of 11,000 to 15,500 feet; never lower. As may be expected, it is perfectly hardy in the open ground, but, what was less to be expected, it flourishes and flowers freely without any special treatment. Whether it will seed, time will prove. Under the most favorable conditions in a wild state, Mr. Wilson observed plants about 3 feet high, bearing as many as 18 flowers, while at its greatest altitudinal limit it is reduced to a rosette of leaves with one flower nestling in the center.

"It is a robust biennial, usually 1½ to 3 feet high, densely clothed with long silky hairs varying in color, but usually yellowish brown. Stem stout; branches and peduncles in whorls. Leaves numerous, mostly linear-lanceolate, 6 inches to 1 foot long, shorter on the stem. Peduncles longer than the leaves, one-flowered, clothed with reversed hairs. Flowers yellow, usually 5 to 6 inches in diameter, sometimes as much as 10." (*Extract from Curtis's Botanical Magazine, vol. 1, ser. 4, 1905.*)

Distribution.—Slopes of the mountains in the provinces of Kansu and Yunnan in China.

31270. MECONOPSIS DELAVAYI Franch.

"This beautiful little plant was first discovered by Pere Delavay in 1884 on the eastern flank of the Lichiang Range, northwest Yunnan, at about 12,500 feet altitude. In height it varies from 5 to 9 inches, reaching the latter only in the most favorable situations. The roots are long, thick, and fleshy. Flowers solitary, semipendulous, 1½ to 2 inches in diameter, color deep, satiny, purple-blue. Mature capsule, erect, 2 to 3 inches in length by ¼ inch in diameter. This charming species flowers in June or July, and there is little doubt of its proving perfectly hardy in this (Scotland) climate. The flowers, with their shining, deep-colored petals and orange-colored anthers, form a delightful contrast to the glaucous green of the foliage and scapes. The species is gregarious, and delights in open, sheltered situations. The first specimens found by me formed small, scattered colonies along the base of a series of ragged limestone cliffs, at about 11,000 to 12,000 feet. These were growing on poor, patchy pasture, in the shelter of dwarf bushes and under the lee of rocks. The soil was composed of limestone, gravel, and chips of varying size. The roots of the species are thick and fleshy and, in the exceedingly free formation, penetrate to quite a considerable depth, in many instances as much as 12 to 18 inches. Later in the season the species was met with in greater abundance at a higher

31269 to 31271—Continued.

31270—Continued.

altitude (13,000 to 14,000 feet), growing amongst heavy, alpine pasture in conjunction with *Meconopsis integrifolia* and *M. forrestii*. One peculiar feature of *Meconopsis delavayi* is the remarkable elongation of the scape during the maturation of the capsule; some seen were as high as 2 feet, or nearly four times the normal height of the scape during the flowering period." (*George Forrest, Gardeners' Chronicle, July, 1911.*)

Distribution.—On the slopes of the mountains at an altitude of 12,000 feet in the vicinity of Likiang in the province of Yunnan, China.

31271. MECONOPSIS HORRIDULA RUDIS Prain.

Distribution.—Same as No. 31270.

31272. ERIOBOTRYA JAPONICA (Thunb.) Lindl. **Loquat.**

From Tunis, North Africa. Presented by Mr. L. Guillochon, Jardin d'Essais de Tunis. Received June 12, 1911.

Seeds.

31273. ARRACACIA XANTHORRHIZA Bancr. **Arracacia.**

From Caracas, Venezuela. Presented by Mr. Antonio Valero Lara. Received June 12, 1911.

"This is known by the name of *Yuco* because the color of the stem and leaves is dark and so deep as to be almost black, and there are places where it is known as *Apio negro*. This is made into preparations for the table as legumes are, in a kettle or a glazed pot, for soups, cakes, conserves, and finally a flour is obtained from it called *sulu*, which is highly nutritious for convalescing invalids, babies, and old people." (*Lara.*)

Tubers.

31274. ASPARAGUS HATCHERI Hort. **Asparagus.**

From Hoffmans, N. Y. Purchased from Mr. John C. Hatcher, Amsterdam, N. Y. Received June 12, 1911.

"This variety originated with John C. Hatcher at his greenhouses in Hoffmans, N. Y., some 12 to 14 years ago. The original plant was discovered in a bed of *Asparagus plumosus*, and there is reason to believe that it is a chance hybrid. Mr. Hatcher had been experimenting with asparagus for a number of years before the discovery of this variety, feeling assured that it was possible to produce something superior to *A. plumosus*. About that time he had been crossing several varieties, and his belief is that *Asparagus hatcheri* is the result of a cross between *A. plumosus* and a variety which he ran across in England some 15 years ago.

"Attention was immediately directed to the new plant by reason of its dense and symmetrical growth of dainty, fern-like fronds, the latter being set close together along the stalk and producing splendid fronds averaging 12 to 15 inches or more, as against those of *A. plumosus*, which average from 8 to 10 inches. It is a very free grower, its productive value being as 3 to 1 compared to the old variety, as it will make a string 24 feet long while *A. plumosus* is making one of 8 feet. Its large fronds and lasting qualities make it far superior to the old variety for decorative use. On account of the density of its growth it is much preferred by retailers for bunch work.

"*A. hatcheri* has been given the severest possible test in every direction and stands approved by those who have been fortunate enough to obtain the stock or to use it for decorative purposes." (*Extract from the Florists' Exchange, May 6, 1911, p. 935.*)

31275. SOLANUM TUBEROSUM L. **Potato.**

From Paraguay. Presented by Dr. Moises S. Bertoni, Estacion Agronomica, Puerto Bertoni, Colonia Bertoni, Paraguay. Received June 12, 1911.

Variety *guaraniticum*. "This is a variety of the *Solanum tuberosum* that grows wild in Paraguay and has been confounded with the *Solanum commersonii* of Uruguay. I gave it the name of *Solanum tuberosum* var. *guaraniticum;* see Praelim. ad Floram Guaran., part 1." (*Bertoni.*)

31276 to 31307.

From Chinese Turkestan. Received through Mr. Frank N. Meyer, agricultural explorer, June 3, 1911.

The following seeds and plants:

31276. EUONYMUS sp.

From mountains near Ta-si-ku, Ili Valley, Chinese Turkestan. Altitude, 4,500 feet. "(No. 982, April 8, 1911.) A small, creeping variety, found on northern exposed, grassy mountain slopes and between shrubs on somewhat moist and cool places. Makes stems 3 to 4 feet in length when growing in some well-protected situation. Leaves small, wine red underneath, and semipersistent. Of possible value in northern regions as a ground cover beneath trees. May be expected to be hardier than the ordinary *Euonymus radicans* and its varieties, as the climate of Ili Valley is decidedly of a severe continental nature, e. g., on November 24, 1910, the mercury dropped to −30° C., or −22° F." (*Meyer.*)

31277. IRIS sp. **Iris.**

From near Kizil-Bulak, Tien Shan Range, Chinese Turkestan. Altitude, 7,000 feet. "(No. 983, March 5, 1911.) An iris found on moist, low places at the foot of dry, sun-burned rocks. Of possible value as a garden perennial in uncongenial climates." (*Meyer.*)

31278. IRIS sp. **Iris.**

From mountains near Ta-si-ku, Ili Valley, Chinese Turkestan. Altitude, 4,500 feet. "(No. 984, April 8, 1911.) An iris found on the southern slopes of clayey mountains. Probably dies off early in the season like spring bulbs. Perhaps of value as a spring-flowering perennial in the northern sections of the United States." (*Meyer.*)

31279. MALUS sp. **Apple.**

From hamlet of Chong Djighilan, Tien Shan Range, Chinese Turkestan. Altitude, 3,700 feet. "(No. 1588a, March 18, 1911.) A wild apple found in abundance in several of the Tien Shan valleys. Apparently of great value as a factor in hybridization work. For further remarks see Nos. 30947, 30948, and 30949." (*Meyer.*)

31280. MALUS sp. **Apple.**

From Kulja, Chinese Turkestan. "(No. 1589a, March 25, 1911.) Seed taken from dried, sliced apples purchased on the local market. Of value like the preceding number." (*Meyer.*)

31281. PRUNUS ARMENIACA L. **Apricot.**

From hamlet of Chong Djighilan, Tien Shan Range, Chinese Turkestan. Altitude 3,700 feet. "(No. 1590a, March 18, 1911.) Obtained from a Sart settler. Wild apricots occur plentifully here and there in the northern Tien Shan Range. For further remarks see No. 30952." (*Meyer.*)

31276 to 31307—Continued.

31282. Crataegus sp. **Hawthorn.**

From valley of the Chong Djighilan, Tien Shan Range, Chinese Turkestan. Altitude 3,800 feet. "(No. 1591a, March 18, 1911.) A variety found along watercourses in thickets and as solitary specimens." (*Meyer.*)

31283. Sorbus sp. **Ash.**

From near Idin-Kul, Tien Shan Range, Chinese Turkestan. Altitude 8,000 feet. "(No. 1592a, March 10, 1911.) A so-called mountain ash found in cool and shady places at high altitudes. Grows to be a small tree, but is mostly seen as a tall shrub. Possibly of value as an ornamental garden and park tree in regions with long winters and cool summers." (*Meyer.*)

31284. Amelanchier sp.

From near Schutte, Tien Shan Range, Chinese Turkestan. Altitude 7,000 feet. "(No. 1593a, March 10, 1911.) A shrub found on stony mountain sides, often in the shade of tall trees. Grows from 3 to 6 feet tall and bears red berries. Possibly of value as an ornamental garden and park shrub in the northern regions of the United States." (*Meyer.*)

31285. Cotoneaster sp.

From near Kara Tugai, Tekes Valley, Tien Shan Range, Chinese Turkestan. Altitude 4,000 feet. "(No. 1594a, March 16, 1911.) A shrub occurring in a pebbly bank along the Tekes River. Of robust, dense growth, attaining a height of 5 to 8 feet. Bears blackish red berries which persist a long time. Of value like preceding number." (*Meyer.*)

31286. Cotoneaster sp.

From valley of the Chong Djighilan, Tien Shan Range, Chinese Turkestan. Altitude 3,700 feet. "(No. 1595a, March 18, 1911.) A shrub occurring on rocky slopes; has slender branches 3 to 5 feet in length. Apparently very floriferous, as many of the shrubs were still covered with a multitude of small blackish berries at the time of collecting. Of value possibly like preceding number." (*Meyer.*)

31287. Berberis sp. **Barberry.**

From Tchoa, Tekes Valley, Tien Shan Range, Chinese Turkestan. Altitude 4,300 feet. "(No. 1596a, March 16, 1911.) A barberry found along the Tekes River on sandy, slightly moist places. Grows from 6 to 10 feet tall and becomes very dense. Leaves entire, somewhat leathery; berries in racemes, small and of red color. The natives use the old wood and root stumps to manufacture a yellow dye. Possibly of value like No. 31284." (*Meyer.*)

31288. Berberis sp. **Barberry.**

From near Ure-Bashi, Tekes Valley, Tien Shan Range, Chinese Turkestan. Altitude 4,800 feet. "(No. 1597a, March 15, 1911.) A robust-growing species of barberry, occurring on stony places near watercourses. Produces strong stems 8 to 10 feet in length. Leaves small; berries large and apparently of a brownish color. The natives use the stout stems for fencing material and in making artistic lattice work in the ceilings of their dwellings. Possibly of value like No. 31284." (*Meyer.*)

31289. Berberis sp. **Barberry.**

From near Kara Tugai, Tekes Valley, Tien Shan Range, Chinese Turkestan. Altitude 4,100 feet. "(No. 1598a, March 16, 1911.) A tall-growing barberry occurring in a pebbly bank along the Tekes River. Has large serrated leaves

31276 to 31307—Continued.

31289—Continued.
and long, blue berries which are borne in abundance and are persistent. Of ornamental habits and content with rather sterile soils. Of value like No. 31284." (*Meyer.*)

31290. HALIMODENDRON HALODENDRON (Pallas) Voss.

From near Ure-Dalik, Chinese Turkestan. "(No. 1599a, February 14, 1911.) A spiny Colutealike shrub found on sandy and alkaline places in deserts where the moisture is not too far from the surface; will also stand some shade. Suitable for a hedge plant in regions where long, hot, and dry summers prevail and where the winters are cold. This number is a much more robust form than the one sent under No. 30415." (*Meyer.*)

31291. ROSA sp. **Rose.**

From valley of the Chong Djighilan, Tien Shan Range, Chinese Turkestan. Altitude 3,500 feet. "(No. 1600a, March 19, 1911.) A wild rose growing in semishady places. Has tall, slender branches which are slightly drooping; has very few spines and to judge by the orange-red fruits left on the branches, must be very floriferous. Of value, possibly, as a factor in breeding experiments to create hardier and more floriferous roses for the northern sections of the United States." (*Meyer.*)

31292. ROSA sp. **Rose.**

From Kurgan, Tien Shan Range, Chinese Turkestan. Altitude 7,000 feet. "(No. 1601a, March 5, 1911.) A wild rose found in a very stony and dry bank. Of use perhaps as a stock in dry, cold regions." (*Meyer.*)

31293. CALLIGONUM sp.

From near Schul-Kuduk, Chinese Turkestan. "(No. 1602a, February 21, 1911.) A graceful-looking small desert shrub, having a multitude of slightly bent, very white branches, which are from 2 to 4 feet in length. Occurs in deserts of moving sands, where it builds small mounds. To be tested for its sand-binding capacities in the dry and not too cold sections of the United States." (*Meyer.*)

31294. CLEMATIS sp. **Clematis.**

From near Kizil-Bulak, Tien Shan Range, Chinese Turkestan. Altitude over 6,000 feet. "(No. 1603a, March 4, 1911.) A bushy clematis, occurring on dry, stony, and alkaline places." (*Meyer.*)

31295. IRIS sp. **Iris.**

From near Tuwan, Tekes Valley, Tien Shan Range, Chinese Turkestan. Altitude 6,000 feet. "(No. 1604a, March 14, 1911.) An iris found on moist low places, said to bear blue flowers. Rhizomes sent under No. 31277, which number see for further remarks." (*Meyer.*)

31296. ASPARAGUS sp. **Asparagus.**

From near Arwat, Tien Shan Range, Chinese Turkestan. Altitude 5,600 feet. "(No. 1605a, March 4, 1911.) A wild asparagus of slightly twining habits, found on sandy alkaline soil. Apparently rare. Possibly of value as an ornamental garden perennial and as a factor in breeding experiments." (*Meyer.*)

31297. ASPARAGUS sp. **Asparagus.**

From Tchoa, Tekes Valley, Tien Shan Range, Chinese Turkestan. Altitude 4,300 feet. "(No. 1606a, March 15, 1911.) A wild asparagus of climbing habits. Rhizomes sent under No. 30953, which number see for further remarks." (*Meyer.*)

31276 to 31307—Continued.

31298. CUCUMIS MELO L. **Muskmelon.**

From Maral-Bashi, Chinese Turkestan. "(No. 1607a, February 16, 1911.) A very fine variety of winter melon, medium large; rind greenish brown; flesh very thick and of pistache color, very sweet in taste; few seeds. To be tested in sections of the United States where the summers are hot and long, the air dry, and where the soil is of a friable, slightly sandy nature and contains a fair percentage of alkaline matter." (*Meyer.*)

31299. CUCUMIS MELO L. **Muskmelon.**

From Maral-Bashi, Chinese Turkestan. "(No. 1608a, February 16, 1911.) A fine winter melon called *Serick Kizlik;* small in size; shape round oblong; rind greenish brown; flesh thick, of a salmon-red color, and of very sweet taste. To be tested like the preceding number." (*Meyer.*)

31300. CUCUMIS MELO L. **Muskmelon.**

From Maral-Bashi, Chinese Turkestan. "(No. 1609a, February 16, 1911.) A very fine winter melon of large size; oblong in shape; rind greenish brown; flesh of a light-salmon color and of an extraordinary thickness; taste fresh sweet, with a slightly saline aftertaste as nearly all the winter melons in Chinese Turkestan have. To be tested like the preceding numbers." (*Meyer.*)

31301. CUCUMIS MELO L. **Muskmelon.**

From Kashgar, Chinese Turkestan. "(No. 1610a, February 3, 1911.) A summer melon called *Ak-Kokchi,* of small size, round shape, and having white meat of very sweet taste. Said to be early. To be tested like preceding numbers." (*Meyer.*)

31302. CUCUMIS MELO L. **Muskmelon.**

From Kashgar, Chinese Turkestan. "(No. 1611a, February 3, 1911.) A summer melon called *Kok-Kokchi;* of small size and round shape; rind and meat both green in color, the latter very sweet and melting. Said to be early. To be tested like preceding numbers." (*Meyer.*)

31303. MEDICAGO FALCATA L.

From valley of the Chong Djighilan, Tien Shan Range, Chinese Turkestan. Altitude 3,700 feet. "(No. 1612a, March 18, 1911.) A wild yellow-flowered alfalfa. Roots sent under No. 30955, which number see for further remarks." (*Meyer.*)

31304. MEDICAGO SATIVA L. **Alfalfa.**

From Lou Tchao Ku, Ili Valley, Chinese Turkestan. "(No. 1613a, April 9, 1911.) A wild alfalfa." (*Meyer.*)

31305. MEDICAGO sp. **Alfalfa.**

From near Kurre, Tien Shan Range, Chinese Turkestan. Altitude 7,000 feet. "(No. 1614a, March 13, 1911.) A wild alfalfa. Roots sent under No. 30954, which number see for further remarks." (*Meyer.*)

31306. VICIA sp. **Vetch.**

From Kurre, Tien Shan Range, Chinese Turkestan. Altitude 7,100 feet. "(No. 1615a, March 13, 1911.) A vetch found in wild harvested hay, considered by the natives to be a very nutritious food for cattle, but especially good for horses. To be tested for its possible fodder value in the northern sections of the United States." (*Meyer.*)

31276 to 31307—Continued.

31307. PHASEOLUS VULGARIS L. **Bean.**

From Suiting, Ili Valley, Chinese Turkestan. Altitude 2,400 feet. "(No. 1616a, April 9, 1911.) An uncommon variety of garden bean, probably has been brought in from Kansu. To be tested in cool, elevated regions as a garden vegetable." (*Meyer.*)

31308. CICER ARIETINUM L. **Chick-pea.**

From Guadalajara, Mexico. Presented by Mr. Samuel E. Magill, American consul. Received June 13, 1911.

"*Garbanza Espanola.* This crop is grown without irrigation; about 100 kilos (220.46 lbs.) of seed is used for every 6½ acres and is planted in rows; crop is not cultivated, nor is machinery of any kind used at any time. There is no preparation of the pea for human consumption other than to screen out the largest. As the pea is very hard it must be ground or boiled for a long time for soup before it can be eaten. The small peas not marketable for export are fed to hogs, and the pods and leaves are fed to milch cows. Practically all of the large peas are exported to Spain and Cuba. Recently, however, there has been a demand for them in the United States. The wet season is between June and October, and the dry season from October to June. There is no known insect that interferes with the growth of the plant or the maturing of the pea." (*Magill.*)

31309. ELEPHANTORRHIZA ELEPHANTINA (Burch.) Skeels.

From Springbok Flats, Waterberg District, Transvaal, South Africa. Presented by Prof. J. Burtt Davy, Government agrostologist and botanist, Department of Agriculture, Pretoria, South Africa. Received June 14, 1911.

See No. 25941 for description.

31310. ANNONA CHERIMOLA Miller. **Cherimoya.**

From Peru. Presented by Mr. Geo. W. Baird, Washington, D. C. Received June 16, 1911.

Mr. Baird says these seeds are from the best variety he ever ate.

31311. MAURITIA FLEXUOSA L. f. **Mirity.**

From Brazil. Presented by Mr. Walter Fischer, acting director, Campo de Cultura Experimental Paraense, Para, Brazil. Received June 17, 1911.

"What Wallace says of the fruits (see Bailey's Cyclopedia of American Horticulture, p. 994) is certainly true; I estimated the number of fruits on the compound spadices as high as 500, and I was told that I never saw the largest. These palms are a very conspicuous feature along the Maju River, whence I brought the seeds. I understand that the seeds were once, i.e., before the days of rubber, quite largely exported for making buttons. This is one of the so-called ivory nuts." (*Fischer.*)

"This is a magnificent palm, its cylindrical stems rising like Grecian columns to a height of 100 to 150 feet, terminated by a crown of large fan-shaped leaves, from the base of which is produced a big bunch of pendulous fruits, some measuring 8 to 10 feet in length, weighing 200 to 300 pounds and containing several bushels of fruit. Each fruit is about the size of a small apple, having a reticulated, polished, smooth shell." (*Smith, Dictionary of Popular Names of Plants.*)

Distribution.—In low woods in the northeastern part of South America, extending from Dutch Guiana southeastward to the lower valley of the Amazon.

31312 and 31313. ANACARDIUM OCCIDENTALE L. **Cashew.**

From Bassein, India. Presented by the curator of the Botanical Gardens of the Experimental Farm. Received through Mr. Edwin S. Cunningham, American consul, Bombay, India, June 12, 1911.

Seeds of the following:

31312. Red variety **31313.** Yellow variety.

"In transmission the curator states 'The plant likes perfect drainage. Any sandy soil with few gravels, pebbles, etc., suits the plant to grow. In their natural state they are seen growing on small hills. The root is tapering and does not stand transplanting like Landolphias, unless very carefully attended to. I have seen plants bearing fruit right from the Equator to 23° N. up to an elevation of 3,000 feet.' " (*Cunningham.*)

31314 to 31316.

From Tunis. Presented by Mr. Frank Edward Johnson, Wauregan House, Norwich, Conn. Received June 12, 1911.

Seeds of the following; quoted notes by Mr. Johnson:

31314. HORDEUM VULGARE L. **Barley.**

"*Orge* (barley) grown on the hills around Matmata, southern Tunis, in dry soil. Very little rain in winter; none in spring or summer."

31315. TRITICUM DURUM Desf. **Wheat.**

"Wheat picked in the large oasis near Gabes. Plenty of irrigation."

31316. TRITICUM sp. **Wheat.**

"Native Arab wheat (almost black when ripe) picked by myself at Matmata. Dry soil. No water."

31317. ERYTHRINA POEPPIGIANA (Walp.) Skeels. **Bucare.**

(*Micropteryx poeppigiana* Walp., Linnaea, vol. 23, 1851, p. 740.)

(*Erythrina micropteryx* Poepp.; Urban, Symbolae Antillanae, vol. 1, 1899, p. 327.)

The seeds of this Peruvian leguminous tree were received from Porto Rico under the name *Erythrina micropteryx.* This name was applied to the species by Pœppig on a herbarium specimen, but apparently was not formally published until 1899, when Urban applied it to the plant. But in 1851 Walpers had published the name *Micropteryx poeppigiana,* based on Pœppig's specimen of *Erythrina micropteryx;* and, *poeppigiana* being the earliest published specific name, it is here restored in accordance with the present rules of botanical nomenclature.

From Mayaguez, Porto Rico. Received through Mr. D. W. May, special agent in charge, Porto Rico Agricultural Experiment Station. Received June 16, 1911.

"A leguminous tree of 15 to 20 meters (50 to 65 ft.) beset with short, conical spines; flowers red. Cultivated as a shade tree for coffee and reported from numerous localities in Porto Rico. It is native of the lower Andes of Peru." (*Cook and Collins, Economic Plants of Porto Rico, 1903, p. 139.*)

31318 to 31320. COLOCASIA spp. **Dasheen.**

From Tientai, via Ningpo, China. Presented by Mrs. A. O. Loosley, China Inland Mission. Received June 13, 1911.

Tubers of the following:

31318 to 31320—Continued.

31318. "The tubers of this variety, when cooked, are dry and mealy and are rather whiter than the *Yii-na* variety. The leafstalk is referred to by the Chinese as white." (*Loosley.*)

"The tubers are nonacrid when raw. The flesh and sprouts are white. When cooked the flesh is of fair flavor." (*R. A. Young.*)

31319. "The tubers of this variety when cooked are white at the heart and purplish colored outside. They are stocky and moist. The leafstalk is called *Yii-na* (black). This variety must be grown deep in damp soil (not water), and the earth should be kept banked up. In dry weather they should be watered." (*Loosley.*)

"The tubers are nonacrid when raw. The flesh and sprouts are white. When cooked the tubers are lacking in flavor." (*R. A. Young.*)

31320. "Tuber pink sprouted." (*R. A. Young.*)

31321 to 31323. TRIFOLIUM LUPINASTER L. **Lupine clover.**

From Russia. Received through Prof. N. E. Hansen, South Dakota Agricultural Experiment Station, Brookings, S. Dak., May 20, 1910. Numbered June 17, 1911.

Seeds of the following; notes by Prof. Hansen:

31321. "(H. No. 285). The same as No. 28313. This is selection No. 2, the third generation from one plant; very tall, without branches, but many stems; stems woody."

31322. "(H. No. 286.) The same as No. 28313. This is selection No. 3, the third generation from one plant; plant tall, with single stems and abundance of large leaves."

31323. "(H. No. 287.) The same as No. 28313. This is selection No. 4. The main endeavor with this species is to improve the plant in size and number of leaves. This species of clover is very widely distributed throughout Siberia, ranging to north of the Arctic Circle. It is considered a valuable plant on the native stock ranges."

31325. CITRUS DECUMANA (L.) Murr. **Pomelo.**

From Seharunpur, India. Presented by Mr. William Gollan, February 25, 1904, who was the superintendent of the Botanic Gardens. Numbered June 21, 1911.

"This plant is from one of six scions that were received by the Office of Pomology. The scions were said to comprise three of the best pomelos of India. Nothing more definite than this is known regarding the variety of this tree." (*R. A. Young.*)

31326. MAURITIA SETIGERA Griseb. and Wendl.

From La Brea, Trinidad, British West Indies. Presented by Mr. W. G. Freeman, Acting Director of Agriculture, Port of Spain, Trinidad. Received June 21, 1911.

Distribution.—A gregarious palm, forming the greater part of the vegetation in the swampy parts of the island of Trinidad.

31327. IPOMOEA BATATAS (L.) Poir. **Sweet potato.**

From Auckland, New Zealand. Purchased from Rev. J. H. Simmonds, through Mr. T. W. Adams, Greendale, Canterbury, New Zealand. Received at the Plant Introduction Garden, Chico, Cal., June 7, 1911.

31328. EUGENIA DOMBEYI (Sprengel) Skeels. **Grumichama.**

From Rio de Janeiro, Brazil. Presented by Mr. A. A. Pereira da Fonseca. Received June 23, 1911.

See No. 30040 for previous introduction.

31329. COLOCASIA sp. **Dasheen.**

From Mukden, Manchuria. Presented by Mr. E. C. Parker, Bureau of Agriculture, Industry, and Commerce. Received June 21, 1911.

"The tubers are similar in general character to the usual Japanese type of dasheen. The flesh is nonacrid when raw and when cooked is rather firm in texture and whitish, but has little flavor." (*R. A. Young.*)

31330 to 31352.

From Tcharjui, Russian Turkestan. Presented by Mr. V. A. Paletsky, at the request of Mr. Frank N. Meyer, agricultural explorer. Received through Alexander Heingartner, American consul, Batum, Russia, June 21 and 22, 1911.

Seeds of the following; quoted notes by Mr. Paletsky:

31330. AMMODENDRON CONOLLYI Bunge.

"Collected on drift sands at Repetek, near Tcharjui, Russian Turkestan. A sand binder."

Distribution.—A silvery leaved shrub growing on the shifting sands of the Kizil-Kum Desert near the Aral Sea in central Turkestan.

31331. CALLIGONUM CAPUT-MEDUSAE Schrenk.

"Found on the drift sands near the railway at Farad, near Tcharjui."

See No. 28974 for description.

31332. HALOXYLON AMMODENDRON (C. A. Meyer) Bunge. **Saxaul.**

"Collected on drift sands at Repetek, near Tcharjui."

See No. 28976 for description.

31333. MEDICAGO SATIVA L. **Alfalfa.**

31334. SALSOLA ARBUSCULA Pallas.

"Native throughout Circassia. Collected on drift sands at Farad railway station."

See No. 28973 for description.

31335 to 31352. CUCUMIS MELO L. **Muskmelon.**

From the Tcharjui dunes.

31335. *Ak Beshek.*

31336. *Ananasnaia Koshkarskaia.*

31337. *Azgik.*

31338. *Emirskaia.*

31339. *Gokcha.*

31340. *Guloka.*

31341. *Karakatukh.*

31342. *Khoddja Murash*, in taste one of the best from the Tcharjui dunes.

31343. *Kokani.*

31344. *Megesek.*

31330 to 31352—Continued.

31335 to 31352—Continued.

31345. *Riri Gullik.*

31346. *Saraksi.*

31347. *Zagrakesh.*

31348. *Zami Bucharskaia.*

31349. *Zami Dekani Yrganchi.*

31350. *Zami*, small, early.

31351. *Zarakigiia*, with fragrant sweet juice.

31352. For all qualities one of the best of the Tcharjui dunes. Exported very largely into European Russia. Keeps until April.

31353. GONOCITRUS ANGULATUS (Willd.) Kurz.

From Buitenzorg, Java. Presented by the director, Department of Agriculture. Received June 22, 1911.

Distribution.—In marshy places on the island of Kambangan near the southern coast of Java.

31354. MANGIFERA MACROCARPA Blume.

From Buitenzorg, Java. Presented by the director, Department of Agriculture. Received June 15, 1911.

Introduced for the work of this office in testing new and hardier stocks for the mango.

Distribution.—Known only from the island of Java.

31355 to 31358.

From Taihoku, Formosa. Presented by Mr. G. Takata, Chief of Bureau of Industry, Formosan Government, at the request of Mr. K. Haga, expert, Bureau of Industry. Received May 10, 1911.

Cuttings of the following:

31355. VITIS VINIFERA L. **Grape.**

These are reported to be from vines bearing fruit of unusually high quality for tropical grapes.

31356 to **31358.** CITRUS spp.

31356. *Ponkan.*

31357. *Sekkan.*

31358. *Tankan.*

31359. PSIDIUM GUAJAVA L. **Guava.**

From Paraguay. Presented by Mr. C. F. Mead, Villa Encarnacion. Received June 22, 1911.

"A native of South America and cultivated from Buenos Aires to Mexico. In Paraguay it grows wild in great profusion. Will resist cold to the same degree as oranges." (*Mead.*)

31360. CASTILLA LACTIFLUA O. F. Cook.

Central American rubber.

From Tapachula, Mexico. Presented by Mr. C. A. Lesher, Zacualpa Rubber Plantation. Received June 23, 1911.

Distribution.—The region in the southern part of Mexico in the vicinity of Soconusco and Tapachula.

31361. PERSEA AMERICANA Miller. **Avocado.**

From Chile. Received through Mr. José D. Husbands, Limavida, Chile, June 26, 1911.

"There are two and perhaps three classes in this lot, having green and black-purple skins like some eggplants. They are very highly esteemed and very expensive. These cost me $6 per dozen, Chile money, or $3 gold. They find a ready sale at these high prices. May be shipped when nearly ripe and ripen upon the journey or afterwards. I purchased these, and the friend who sent them ate the fruit for his trouble. They are delicious eaten with salt and pepper and as a salad for breakfast, lunch, dinner, or at any time. Liked better than olives.

"Up to the year 1854 paltas were not considered a comestible fruit and in no way appreciated except as an ornamental tree. The black paltas of Quillota were considered unfit for food for many years afterwards, but now the variety is held in the highest esteem. It is believed to have originated from accidental crossing in the gardens of Quillota with wild Peruvian varieties. In the station of this city one sees paltas offered for sale of many colors, sizes, and shapes: Green, brown, red, russet, etc." (*Husbands.*)

31362. DYERA COSTULATA (Miq.) Hook. f.

From Lawang, Java. Presented by Mr. M. Buysman, Botanic Garden. Received June 19, 1911.

"A Sumatra tree, which produces a surrogate for caoutchouc. A company for the manufacture of articles of this gum is to be formed at Surabaya with a capital of several million florins." (*Buysman.*)

Distribution.—An apocynaceous tree found in Sumatra and other Malayan islands.

31363. DOLICHOS LABLAB L. **Bonavist bean.**

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received June 27, 1911.

Stringless.

31365. (Undetermined.) **Kiffy.**

From Liberia, Africa. Procured from Mr. Henry Stewart through Mr. G. N. Collins. Received June 23, 1911.

"A cucurbitaceous plant. The seeds of this plant when parched and ground produce a delicious condiment. Kiffy seed is an important ingredient in the popular Liberian dish *dumboy*. The flavor of the parched seed is similar to that of the parched seeds of *Sesamum indicum* which are used in the same way by the natives of Liberia.

"The gourdlike fruits, about the size and shape of a goose egg, are produced on vines like the ordinary gourd. The method of securing the seeds practiced by the Liberians is to macerate the fruits in water and wash them free from the pulp. The season required for maturing the fruit is probably too long to permit the plant being grown anywhere in this country except in the extreme South." (*Collins.*)

31366. EUGENIA sp.

From Paraguay. Presented by Mr. C. F. Mead, Villa Encarnacion. Received June 28, 1911.

"This is called in Guarany *ñangapiri*. Fruit found in the mountains of Paraguay. In size and color same as May Duke cherry; tree also grows to the same height and shape as the one producing this fruit; contains from 1 to 3 seeds and has a button on the bottom similar to the quince. It is beautiful to look at, but the taste is nothing wonderful according to my palate. Tree is found only inside of the forest in shade, so it can not be very resistant to frost." (*Mead.*)

31367. PHORMIUM TENAX Forst. **New Zealand flax.**

From Gore, South Island, New Zealand. Presented by Mrs. Alexander Graham Bell. Received May 8, 1911.

31368 and 31369. TRITICUM AESTIVUM L. **Wheat.**

From the Hoggar region, Algeria. Presented by Dr. L. Trabut, Algiers, Algeria. Received June 28, 1911.

Seeds of the following; quoted notes by Dr. Trabut:

31368. "Wheat, stiffly barbed."

31369. "Wheat, stiffly one-half barbed."

"This wheat was received from among the Hoggar Tuaregs. It is cultivated with the aid of irrigation and in very soft places."

31370. CAPRIOLA DACTYLON (L.) Kuntze. **Bermuda grass.**

From Lucknow, India. Presented by Mr. H. J. Davis, superintendent, Government Horticultural Gardens, at the request of Rev. N. L. Rockey, Gonda, United Provinces. Received June 28, 1911.

Native name *Doob* grass.

NOMENCLATURAL NOTES AND PUBLICATION OF NEW NAMES.

30495. Spondias cytherea Sonnerat.
30498. Warneria augusta Stickman.
30662. Alhagi pseudalhagi (Bieb.) Desv.
30721. Vigna sinensis (Torner) Savi.
30742. Anacardium excelsum (Bertero and Balbis) Skeels.
30758. Schizonotus aitchisoni (Hemsl.) Skeels.
30761. Cajuputi hypericifolia (Salisb.) Skeels.
30795. Cajuputi pubescens (Schauer) Skeels.
30993. Circinnus circinatus nummularius (DC.) Skeels.
31115. Phytelephas seemanni O. F. Cook. n. sp.
31244. Berberis japonica bealei (Fortune) Skeels.
31317. Erythrina poeppigiana (Walp.) Skeels.

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